[illegible] 144 1

L4, ANSWER 1 OF 57 HCAPLUS COPYRIGHT [illegible] ACS
AN [illegible] HCAPLUS
DN [illegible]
TI Biodegradable substituted-ester-lease- **alginate** [illegible]
IN Hidebrand, Merrill Shaw; [illegible]
PA Amgen Inc., USA
SO PCT Int. Appl., [illegible] pp.
CODEN: PIXXD2
DT Patent
LA English.
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO [illegible]	A1	19981118	WO 1998-US[illegible]	[illegible]
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, [illegible]			
		IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, [illegible]			
		MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, [illegible]			
		TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, [illegible]			
		RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, [illegible]			
		ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, [illegible]			
		CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	AU [illegible]	A1	19981206	AU 1998-[illegible]	[illegible]
PRAI	US [illegible]		1997[illegible]		
	WO [illegible]		1998-US[illegible]		

AB The present invention relates to sustained-release [illegible] using biodegradable **alginate** delayed gels or particles and methods. Leptin (1.[illegible] mg/mL; 10 mM Tris HCl, pH 8.0; pH adjusted to pH 8.0 to 8.5 with 1M NaOH) and 6% Et **alginate** (15 mol%, 10 mM Tris HCl, pH 8.0) were cooled on an ice bath. Leptin (0.5 mL) was added to the 6% Et **ester alginate** (0.18 mL) and the mixt. stirred on an ice bath for 10-15 min; the final pH was 8.6-8.8. To this mixt. was added a suspension of 1M CaCO3 (16 .mu.L) and the resulting suspension was mixed well. To this suspension was dropwise added, with [illegible], a soln. of 0.1M GnCl2 (100 .mu.L); water was then added to bring the vol. to 1 mL. Then a soln. of 1.6mM 6-gluconolactone (50 .mu.L) was rapidly stirred into this mixt. The final mixt. (50 mg/mL leptin, 1% Et **alginate**; 0.1 mL) was cast on the inside of an Eppendorf tube and left overnight at 4 degree. to gel. After overnight storage, the leptin release was monitored in 10 mM histidine buffer, pH 7.4. The [illegible] with 15 mol% degree of **esterification** had minimal burst and fairly linear leptin release showing 60% released in 6 days. The gel with 10 mol% degree of **esterification** had minimal burst and fairly linear leptin release showing 55% released in 6 days.

RE.CNT 9

RE

(1) Amgen Inc.; WO 9846211 A 1998
(2) Heekman, A; WO 9851348 A 1998
(3) Heinto, R; US 5770845 A 1998
(4) Immunex Corp; WO 9606041 A 1996
(5) [illegible], M; Bull Pharm Bull 1993, V16(4), P421 HCAPLUS

All CITATIONS AVAILABLE IN THE RE FORMAT

=> d his nos 1-44

L44 ANSWER 1 OF 87 HCAPLUS COPYRIGHT 2006 ACS
AN 1985:516946 HCAPLUS
DN 103:116946
TI Microbicidal and sanitizing soap compositions
IN Lipes, Jr., A.
PA USA
SO U.S., 5 pp., Cont. of U. S. Ser. No. 531,648, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4545979	A	1985 1008	US 1983-481461	1983 0404
PRAI US 1983-481461		1983 0404		

AB The invention relates to microbicidal and sanitizing soap compns. that incorporate agents with tuberculocidal properties in a ready-to-use form that has gel properties or thixotropic properties and soap cond. compns. suitable for dilu. in or with water or non-aq. diluent to produce gel-like or thixotropic solns. or dispersions ranging from free flowing to solidified forms. The ready-to-use compns. and the dild. compns. are applied for purposes of personal or animal hygiene in sanitizing on hair, hands and skin or other body parts, or are applied to inanimate surfaces and objects that need to be sanitized. For example, a soap compn. contained Na C14-16 .alpha.-olefin sulfonates (40 %), lactic acid (88 %) 1, Xanthan gum 0.5, Aloe vera powder 0.1, lemon oil 0.1, and water q.s. to 100 %.

RE.CNT 22
RE
(1) Ambice; US 4545979 1985 HCAPLUS
(3) Anon; DE 3229097 1993 HCAPLUS
(4) Anon; GB 2216419 1994 HCAPLUS
(5) Brokken; US 4945110 1990 HCAPLUS
(7) Curtis; US 4213961 1980 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

WIII [illegible]

[illegible]

L4 ANSWER [illegible] HCAPLUS COPYRIGHT [illegible] ACS
AN [illegible] HCAPLUS
DN [illegible]
TI [illegible]
IN [illegible]
PA [illegible] Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP [illegible]	A2	[illegible]	JP [illegible]-461[illegible]	[illegible]

AB [illegible] contain (A) [illegible], (B) silicone gel compn. [illegible] oil-gelling agents, [illegible] water-sol. polymers, and [illegible] H2O. The [illegible] show good water resistance and have no stickiness. A gel was [illegible] from [illegible], polyoxyethylene C12-16 alkyl ether phosphate [illegible], [illegible] glycol [illegible], carboxyvinyl polymer 0.2, 1% NaOH soln. [illegible].6, EtOH [illegible], glycerin [illegible], KSG 16 (silicone gel compn.) [illegible]%, and H2O balance.

L44

L44 ANSWER 1 OF 1 WPIX COPYRIGHT 2007 THOMSON REUTER
AN 1990-[illegible]
TI Artificial [illegible] media containing water-[illegible] and surfactants for planting
IN Hirai, Masaharu; Ikeda, Tetsuya; Suzuki, Takayuki
PA [illegible] Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 1[illegible]	A2	1990[illegible]	JP 1988-[illegible]	[illegible]

AB [illegible] media contain [illegible] wt.% water-absorbing [illegible] and [illegible] wt.% surfactants. Artificial media comprising the [illegible] media and soil, sand, inorg. substances, and/or supports are also [illegible]. Primula polyantha planted in an aq. medium contg. 0.5 wt.% [illegible] polyacrylic acid Na salt and 0.1 wt.% **cetyltrimethylammonium** chloride (Quartamin 60W) showed better growth [illegible] planted in a control medium without it.

L1 ANSWER 1 OF 1 WPIX COPYRIGHT 2004 DERWENT INFORMATION LTD
AN 2004-[illegible]
TI [illegible]
TI [illegible] comprising a fixing polymer and [illegible] agent [illegible]
hair styling gels
IN Samain, Henri; Thetiot, Isabelle
PA L'Oreal S. A., Fr.
SO Fr. Demande, 24 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR [illegible]	A1	19[illegible] 15	FR 1996-[illegible]	[illegible]
	FR [illegible]	B1	19[illegible]		
	WO [illegible]	A1	199[illegible]	WO 1997-FR[illegible]	[illegible]

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
AB The title compns. contain .ltoreq.5* fixing polymer, .ltoreq.1 gelatin agent and has viscosity (V) 10[14.4-2.6lg(F) .ltoreq. V .ltoreq. 1[illegible]-2.1lg F] where F = total * concn. of fixing polymer and F .ltoreq. *; for F .gtoreq. * the viscosity is 1[illegible]3.48-1.11g(F) .ltoreq. V .ltoreq. 1(14.48-1.1[illegible]). The gels provide rapid styling and good hold as well as good cosmetic properties such as shine and a natural feel. Thus, a styling gel was prepd. from vinyl acetate-vinyl p-tert-butylbenzoate-crotonic acid terpolymer 1-acrylamido-2-methyl-1-propanol salt (fixing polymer) and hydroxypropyl guar (Jaguar HP60) in water. The viscosity of the gel was 1[illegible] cps. The gel, applied to hair with hands, dried rapidly, and imparted firm hold and shine. The hair also exhibited good shine and a natural feel. Hair styled with gels based on the same components, but having viscosity outside the range defined, was wettened by the gel and the hair style was flattened.

[illegible]

L[illegible] ANSWER [illegible] HIGHLIGHT [illegible]
AN [illegible]
TI [illegible]
IT [illegible]: **polysaccharides**
IN [illegible]
PA Japan Medical P. Pr., Japan
SO [illegible]
CODEN: JKXXAF
DT Patent
LA [illegible]
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	A2	[illegible]	[illegible]	[illegible]

AB [illegible] disinfectants, which are skin-penetrable and [illegible] with chlorhexidine, cetylpyridinium chloride, [illegible], natural **polysaccharides** and/or their derivs., fatty [illegible] **esters**, and lower alcs. and disinfectants, in which [illegible] of the lower alcs. is 1-5 wt.%. A palm-ethylhexanoate disinfectant was prepd. from benzalkonium chloride 0.5, carboxyvinyl polymer [illegible], xanthan gum 1.0, diisopropyl adipate 0.3, triethanolamine 1.0, EtOH [illegible], and H2O 56.4 g.

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PI     US [illegible]         A     [illegible]      US 1994-[illegible]   [illegible]
       US [illegible]         A     [illegible]      US [illegible]        [illegible]
       W[illegible]           A1    [illegible]      WO [illegible]        [illegible]
           W:  CA, JP
           RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, [illegible]
       JP [illegible]         T2    [illegible]      JP 1991-[illegible]   [illegible]
       AT [illegible]         E     [illegible]615   AT 1991-[illegible]   [illegible]
       ES [illegible]         T3    [illegible]      ES [illegible]        [illegible]
       US [illegible]446      A     [illegible]      US [illegible]        [illegible]
       W[illegible]           A1    [illegible]      WO [illegible]        [illegible]
           W:  AU, CA, JP
           RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, [illegible], NL, SE
       AU [illegible]         A1    [illegible]      AU 1992-[illegible]   [illegible]
       AU 66[illegible]       B2    [illegible]
       JP [illegible]364      T2    1994[illegible]  JP 1992-[illegible]   [illegible]
       EP 6165[illegible]     A1    1994[illegible]  EP 1992-91[illegible] [illegible]
           R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, [illegible], NL, SE
       US 546[illegible]54    A     19951128         US 1993-76[illegible] [illegible]611
       US [illegible]575      A     19961203         US 1993-76[illegible] [illegible]611
       US [illegible]16       A     1994[illegible]  US 1993-[illegible]   [illegible]
       US [illegible]         A     1996[illegible]  US 1993-[illegible]   [illegible]
       US [illegible]         A     [illegible]      US [illegible]        [illegible]
       US [illegible]         A     [illegible]      US 1994-[illegible]   [illegible]
       WO [illegible]74       A1    [illegible]      WO 1994-US[illegible] [illegible]
           W:  AU, CA, CN, JP
           RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, [illegible], NL, PT, SE
       US 5[illegible]024     A     19980630         US 1994-[illegible]   [illegible]916
       CA 21[illegible]       AA    [illegible]      CA 1994-[illegible]   [illegible]
       JP [illegible]         T2    1997[illegible]  JP 1994-[illegible]   [illegible]
       US 5571497             A     19961105         US 1995-[illegible]   [illegible]
       CN [illegible]         A     [illegible]      CN [illegible]        [illegible]
       US [illegible]         A     [illegible]      US 1996-[illegible]   [illegible]
       US [illegible]         A     [illegible]      US 1996-[illegible]   [illegible]
       US [illegible]         A     [illegible]      US 1997-[illegible]   [illegible]
       AU [illegible]         B2    [illegible]      AU [illegible]        [illegible]
       AU [illegible]         A1    [illegible]
       AU [illegible]         A1    [illegible]      AU [illegible]        [illegible]
       AU [illegible]         A1    [illegible]      AU [illegible]        [illegible]
PRAI   US [illegible]         [illegible]
       US [illegible]         [illegible]
       US 1991-716[illegible] [illegible]
       US 1991-[illegible]    [illegible]
       US 1993-[illegible]    [illegible]
       US 1993-[illegible]    [illegible]
       US [illegible]         [illegible]
       US [illegible]         [illegible]
       US [illegible]         [illegible]
       US [illegible]         [illegible]
       WO [illegible]         [illegible]
       US [illegible]         [illegible]
       US [illegible]         [illegible]
       WO [illegible]         [illegible]
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Gas and vapor permeable filled microspheres, and methods provide a vehicle and a delivery vehicles for various active ingredients, including drugs and cosmetics. Gas and vapor permeable filled microspheres were prepared, for example, by

[illegible]

L[illegible] ANSWER [illegible] HYDROGEL [illegible]
AU [illegible]
TI [illegible]
SO [illegible]
IN [illegible]
PA [illegible]
SO [illegible]
DT [illegible]
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI [illegible]	A1	[illegible]	[illegible]	[illegible]
DESIGNATED: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, NL, SE, MC				
SE [illegible]	A	[illegible]	SE [illegible]	[illegible]
AU [illegible]	A1	[illegible]	AU [illegible]	[illegible]
PRAI SE [illegible]	[illegible]			
WO [illegible]	[illegible]			

AB An in situ gel forming pharmaceutical compn. for [illegible] administration to a target tissue in the body, said compn. essentially [illegible] of a water soluble matrix, one or more appropriate forming surfactants, [illegible] gel forming water sol. polymers, a drug and optionally [illegible], said drug having lipophilic properties, as it binds stronger [illegible] aggregates of surfactants than to water, whereby its release from [illegible] gel to the target organ occurs slowly. A compn. was [illegible]. Lutrol prist [illegible] .mu.g, Et hydroxyethyl cellulose 4 [illegible], **cetyltrimethylammonium** bromide 15 mg and water to 4 [illegible].

L44 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2004 ACS
AN [illegible] HCAPLUS
TI [illegible]
IN Matsuzawa, Yoshiyuki; Hatt ri, Tetsuya
PA Kao Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP [illegible]	A2	1997 6.3	JP 1995-31 [illegible]	[illegible]

AB Title cosmetic emulsions are manufd. by mixing and [illegible] ethylhexyl phenyl ether, cationic surfactants and aq. phases contg. oil n.v. materials. **Stearyltrimethylammonium** chloride 1.6 g was dild. with an oily phase mixt. of cetostearyl alc. 1.. , glycerin pyri d. [illegible] -heate d. , triethyl hexanoate 1. , polyoxyethylene monostea [illegible] , and ethylene glycol distearate 1. g. Then, the oily phase was [illegible] with an aq. phase mixt. of poly aspartic acid Na 4. , glycerin 1. , trisodium .4, and H2O 165 g and stirred with 1. g methylpolysil [illegible] gave a phase, which was stable at 45.degree. for 1 wk without sep.

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AN ...
PA ...
SO ...
DT ...
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FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE
WO 9... A1 ... WO ...-EP... ...
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA
... A1 ... AU ...-...
EP ... A1 ... EP ...-...
R: BE, DE, DK, ES, FR, GB, GR, IT, NL, SE, AT, I
ORDER: DIALOG
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...

AB A cellulolytic enzyme prepn. comprising a cellulase w. reduced mobility is prepd., e.g., by increasing the mol. wt. or apparent size of the cellulase protein mol. or by insolubilizing or immobilizing the cellulase. The cellulase component may be immobilized by incorporation into a gel, by the formation of stable or temporary aggregates with high mol. mass, by rapid immobilization of cellulase protein on insol. pigments, by rapid autoimmobilization of the cellulase protein, or by adsorption to an insol. particulate carrier. The carrier is preferably a fiber-shaped carrier of fibrous, microcryst., or amorphous structure, and more preferably a cellulosic or insol. polymer, esp. a **polysaccharide** capable of interaction with the enzyme via a cellulose-binding domain (CBD) or catalytic domain, or a cellulosic polysaccharide. For example, Humicola insolens 43-kDa cellulase (1.6 g.) was enzyme-autoimmobilized on 100 g/L Avicel (microcryst. cellulose) by incubation in 0.1M phosphate buffer (0.05M, pH 7.5) at 25.degree. for 30 min, repeated centrifugation at 4000 rpm for 15 min and 5.degree., decanting the moist sediment, and milling. About 50% of the total cellulase activity was autoimmobilized by this procedure, and the immobilized cellulase retained full activity as "free" cellulase. The cellulase preparation has a much lesser effect or influence on the durability or aging behavior of the cellulosic substrate than corresponding unmodified cellulases or at least having as mild an effect on the look or feel, when used for treatment of cellulosic fabrics or textiles. The cellulase prepn. may be used for treatment in industrial laundering or fabric softening as an ingredient of a detergent compn., for bio-polishing, or for stone-washing denim fabric or garments made of other types fabrics or garments.

L ... ANSWER 1 OF ... HCAPLUS COPYRIGHT ... ACS
AN ... [illegible]
TI ... [illegible]
TI A **polysaccharide** hydrogel material, its preparation ... [illegible]
... [illegible], and its ... [illegible]
IN ... [illegible], Lavelay, Valle-Brau, Laufray
PA ... [illegible]
SO ... [illegible]
... [illegible]
LA ... [illegible]
FAN.CNT ...

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	A1	[illegible]	[illegible]	[illegible]

DS: AL, AM, AO, AT, AU, AZ, BA, BB, BE, BG, BH, BJ, BR, BW, BY, BZ, CA, CF, CG, CH, CI, CL, CM, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GA, GB, GD, GE, GH, GM, GN, GQ, GR, GT, GW, HN, HR, HU, ID, IE, IL, IN, IS, IT, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LI, LK, LR, LS, LT, LU, LV, MA, MC, MD, MG, MK, ML, MN, MR, MW, MX, MZ, NA, NE, NG, NI, NL, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SM, SN, SY, TG, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GH, GM, GN, GQ, GR, GW, IE, IT, KE, LR, LS, LU, MC, MG, ML, MR, MW, MZ, NL, OA, PT, SD, SE, SL, SN, SZ, TG
[illegible] A1 [illegible] [illegible]
[illegible] [illegible]
[illegible] [illegible]

AB A **polysaccharide** hydrogel material consisting of a [illegible] graft of a functionalized deriv. of **alginic** acid [illegible] acrylic acid, whose **carboxylic** groups are partially **esterified** with an unsatd. aliph. or an araliph. alc., and the [illegible] **carboxylic** groups are partially salified with an alk. or alk.-earth metal, partic. with **tetralkylammonium**. This hydrogel material, which is crosslinked optionally in presence of [illegible] by treatment with radiation, UV, beta and gamma rays, is useful [illegible] in cosmetics, surgery, [illegible] and for the prepn. [illegible] A polymerizable hyaluronic acid allyl carbonic **ester** [illegible] salt was formed and swollen in a phosphate buffer of pH=7.4 [illegible].

L[illegible] ANSWER [illegible] OF [illegible] AVAILABLE [illegible] COPYRIGHT [illegible] ACS

AN [illegible] HCAPLUS

TI [illegible]

IN [illegible]

PA [illegible]

SO [illegible]

DT [illegible]

LA [illegible]

FAN.CNT [illegible]

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO [illegible]	A1	1996 [illegible]	WO 1996-US[illegible]	[illegible]
W: [illegible]				
RW: [illegible]				
[illegible]	A1	1996 [illegible]	[illegible]	[illegible]
AU [illegible]	A1	1996 [illegible]	AU 1996-[illegible]	[illegible]
EP [illegible]	A1	1997 [illegible]	EP 1996-[illegible]	[illegible]
R: [illegible]				
JP 1[illegible]	T2	1997-[illegible]	JP 1996-[illegible]	[illegible]
PRAI US 1995-[illegible]		1995[illegible]		
US 1995-[illegible]		1995[illegible]		
WO 1996-US[illegible]		1996[illegible]		

AB Biodegradable controlled-release nanoparticles as well as methods of release [illegible] relative about delivery vehicles include surface [illegible] [illegible] amount of the nanoparticles to tissues or [illegible] living systems, to enhance nanoparticle sustained release properties, and to produce nanoparticle-incorporated bioactive agents. Unique methods of making small (1 nm to 15 nm, and preferably 2 nm to 45 nm) nanoparticles having a narrow size distribution which can be surface-modified after the nanoparticles are formed is described. Techniques for modifying the surface include a lyophilization technique to produce adsorbed coating and epoxy-derivatization to functionalize the surface of the nanoparticles to covalently bind mols. of interest. The nanoparticles may also comprise hydroxy-terminated or epoxide-terminated, activated multiblock copolymers, having hydrophobic segments that may be polycaprolactone and hydrophilic segments. The nanoparticles are useful for local intravascular administration of smooth muscle inhibiting and antithrombotic pharmaceutical agents as part of interventional cardiovascular catheterization procedures such as balloon angioplasty procedures; direct application to tissues and/or cells for gene therapy, such as the delivery of therapeutic genes or gene segments into bone progenitor cells; or oral administration in an enteric capsule for delivery of protein/peptide based therapies.

TI [illegible] **polysaccharides** [illegible]

AU [illegible]; [illegible]; [illegible]; [illegible]

CS [illegible] Specialty Chemicals Co., USA

SO [illegible] Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 604[illegible]	A1	1994[illegible]	EP 1993-[illegible]	[illegible]
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	[illegible]	A	1994[illegible]	[illegible]	[illegible]
	CA 2114[illegible]	AA	1994[illegible]	CA 1993-2114[illegible]	[illegible]
	JP [illegible]	A2	1994[illegible]	JP 1993-[illegible]	[illegible]
	US 5[illegible]	A	1995[illegible]	US 1993-[illegible]	[illegible]
	AU [illegible]	A1	1994[illegible]	AU 1993-[illegible]	[illegible]
	BR [illegible]	A	1994[illegible]	BR 1993-[illegible]	[illegible]

PRAI US 1992-[illegible]

US 1993-[illegible]

AB Absorbent materials comprise cross-linked **polysaccharides**. Thus, [illegible] carboxymethyl was dissolved in [illegible] water, then [illegible] mL of a soln. of diethylene glycol diglycidyl ether and the mixt. was then dried. The absorption capacity [illegible] powder was [illegible] g/g.

L[illegible] ANSWER [illegible] OF [illegible] HCAPLUS [illegible] COPYRIGHT [illegible] ACS
AN [illegible]
IN [illegible]
TI [illegible]
SO [illegible]
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI [illegible]	A1	[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

AB The [illegible] agents have general formula R1O(CH2CH2O)nR2 (n = 5-50; R1 = straight or branched chain, C10-C24-alkyl, C10-C24-alkyl(C:O), C10-C24-alkyl(Ph); R2 = H, CH3, CH2CH3, or PO3; R3 = 5- or 6-membered satd. or unsatd. heterocyclic ring, optionally substd. with straight or branched chain alkyl, and, optionally, substituted with straight or branched chain alkyl substituents; the foamed [illegible] and form stable foams with greatly reduced quantities of additives, e.g., stabilizers and foam boosters. The [illegible] agent may have formula I. The foaming agents are manufd. by [illegible] having general formula R1O(CH2CH2O)nR2H with a compd. having general formula R3H. The foam compns. are used for extinguishing fires and blanketing toxic materials. A foam concentrate contained [illegible] pH, prevented [illegible], tridecapareth-4 ethoxy sulfate 20, Na stearyl sulfate [illegible], ethylene glycol (solvent) 40, NaCl (viscosity modifier) 1, [illegible] Na salt (stabilizer) 1, soln. starch (stabilizer) 5, polyvinyl [illegible] (solvent) 1, Ca stearate (stabilizer) 5, propane-1-ol (solvent), [illegible] dihydroxybiphenyl (preservative) 0.1, polyvinyl pyrrolidone (preservative), MgSO4 (viscosity modifier) 0.8, NH4HCO3 (buffer) 0.5, NH4 [illegible] ether 0.6, Na stearate (stabilizer) 1, phenolphthalein (colorant), and [illegible] gamma-butyrolactone (stabilizer) 0.4%, and [illegible] ester 150 ppm. A spontaneously foaming compn. contained the above [illegible], chlorodifluoromethane 5, dichlorotetrafluoroethane 15, and water [illegible].

L[illegible] ANSWER [illegible] OF [illegible] HEALTH COPYRIGHT [illegible] ACS
AN [illegible] HEALTH
TI [illegible]
II [illegible] [illegible] [illegible]
[illegible], [illegible] W.; [illegible], [illegible] L.
SO [illegible] Applications, Eastern Res. Lab., Peoria, IL, [illegible], USA
DT [illegible]
LA English
AB Li, Na, K, and **NH4** salts of the industrial **polysaccharide** gellan (I) were prepd. The salts were [illegible] soly. in water at room temp. [illegible] degrees. The [illegible] potentially held that restricted [illegible] degrees. Was necessary for complete soly. in the presence of mono- or multivalent cations. [illegible], the [illegible] was formed. These solns. were [illegible] the properties expected of I. Gelation by the presence of [illegible] present will [illegible] I. Gels contg. 0.5% Na or K salts [illegible] of I underwent a small shrinkage with over one-third of the I **carboxyl** groups. Purifn. was rapid and included sequential [illegible] with a cation-exchange (H+ resin, LiOH, NaOH, KOH, or NH4 OH, and an anion-exchange (Cl- resin. About 95% of the divalent cations and nearly all of the phosphate that contaminated com. I were removed. The purified monovalent salts of gellan set in the presence of [illegible] cations and provide well-defined agents for gelation media used in gelation of microbes and plants. In a manner analogous to Na **alginate**, [illegible] of Li, Na, K, or **NH4** gellanate formed gels [illegible] upon addn. of divalent cations. This property was [illegible] for entrapment of enzymes and cells in beads.

L [illegible]

L44 ANSWER [illegible]

AN [illegible]
TI [illegible]
DC [illegible]
IN [illegible]
PA [illegible]
PA [illegible]
SO [illegible]
IC [illegible]
MC [illegible]
DR [illegible]
AB [illegible]

PATENT NO [illegible] KIND DATE APPLICATION NO [illegible]

[illegible] A1 [illegible] WO [illegible]
DW: AU, JA, JE, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, L [illegible], NL, SE, SE
[illegible] A1 [illegible] AU [illegible]
[illegible] A1 [illegible] EP [illegible]
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, L [illegible], NL, SE, SE
[illegible] A [illegible] [illegible]
[illegible] A [illegible] [illegible]

AB A protein stabilizer additive comprises two [illegible] of the simple of the formula: (HOCH2)3-C-R, wherein R is: C1-C4 alkyl, [illegible] C1-C4 alkyl, HNL; NR1R2 wherein R1 and R2 may be independ[illegible] H, C1-C4 alkyl self ester, C1-C4 hydroxyalkyl sulfonate; C1-C4 alkyl [illegible] (CH2OH)3, C1-C4 alkyl, C1-C4 hydroxyalkyl; C1-C4 alkyl **carboxylate**; a polyelectrolyte; a buffer, and one or more addnl. [illegible] for example alkali-ot metal salts. An example of the (HOCH2)3-C- [illegible] is 1,1',1"-tris(hydroxymethyl)ethane. An example of the p[illegible]electrolyte is **alginic** acid. The stabilization of protein enzymes [illegible] [illegible] oxidase and glu[illegible] oxidase are described.

[illegible]

IN [illegible]
AU [illegible]
TI [illegible]
SO [illegible]
GI [illegible]
AB [illegible]
PA [illegible]
IA [illegible]
PI [illegible]
DT [illegible]
LA [illegible]
PRAI [illegible]

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DE, [illegible]	A1, BB, BG, BE, CH, DE, ES, FR, GB, GR, IE, IT, LI, LU, NL, SE			
[illegible]	A	[illegible]	[illegible]	[illegible]
[illegible]	A1	[illegible]	[illegible]	[illegible]
[illegible]	B1	[illegible]		
[illegible]	A	[illegible]	[illegible]	[illegible]
[illegible]	AA	[illegible]	[illegible]	[illegible]
[illegible]	A1	[illegible]	[illegible]	[illegible]
[illegible]	C1	[illegible]	[illegible]	[illegible]
[illegible]	A	[illegible]	[illegible]	[illegible]
[illegible]	A	[illegible]	[illegible]	[illegible]

[illegible]

[illegible] insulin-dependent diabetes mellitus is treated [illegible] nasal by [illegible] administration [illegible] of peptide T-d-T or glucagon-like peptide 1 [illegible] trypsin, DNase I and related peptides, esp. in combination with [illegible] polymer matrix, in a water-insoluble oil suspension, in a complex with [illegible] other metals, in a complex with a basic polypeptide [illegible], in a liposome delivery system, or after subjection to sonication [illegible] in an [illegible] syst. material formation (e.g. high shear in exptl. [illegible] salts) to [illegible] the release of the peptide. Thus, a soln. [illegible] mg insulin/mL phosphate-buffered saline (PBS) [illegible] with an equal vol. of a soln. of 4.6 mg pivtamine and 4.4 mg [illegible] PBS to give an aq. suspension.

L1 ANSWER [illegible] HCAPLUS COPYRIGHT [illegible]
AN [illegible]
TI [illegible]
IN [illegible]
PA Jasco, Ryoko; Takano, Mitsuru; Abe, Koji
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	A2	[illegible]	[illegible]	[illegible]

AB Water-insol. particle having polyelectrolyte layer [illegible] the use for immunoassay to reduce non-specific interference. The sulfate polyelectrolyte can be selected from anionic [illegible], phosphoni, etc. functional group-cont. polyelectrolyte or cationic quaternary **ammonium**, etc. functional group-cont. polyelectrolyte. In example, different combination of anionic and cationic polyelectrolyte were used as carrier for immunoassay of .alpha.-fet protein or .alpha.1-antichymotrypsin.

[illegible]

L? ANSWER [illegible] OF [illegible] CAPLUS COPYRIGHT [illegible] ACS
AN [illegible] CAPLUS
DN [illegible]
TI [illegible]
IN [illegible]
PA [illegible], Italy
SO PCT Int. Appl., [illegible] pp.
CODEN: [illegible]
DT Patent
LA English
FAN.CNT [illegible]

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI [illegible]	A1	[illegible]	WO [illegible]	[illegible]
W: AT, [illegible]				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, [illegible], NL, PT, SE, [illegible]				
AU [illegible]	A1	[illegible]	AU [illegible]	[illegible]
AU 669147	B2	1996[illegible]		
EP [illegible]	A1	[illegible]	EP [illegible]	[illegible]
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, [illegible], NL, PT, SE				
HU [illegible]	A2	[illegible]	HU [illegible]	[illegible]
HU [illegible]	B	[illegible]		
[illegible]	C1	[illegible]	RU [illegible]	[illegible]
[illegible]	B1	[illegible]	[illegible]	[illegible]
FI [illegible]	A	[illegible]	FI [illegible]	[illegible]
NO [illegible]	A	[illegible]	NO [illegible]	[illegible]
PRAI IT [illegible]		[illegible]		
WO [illegible]		[illegible]		

AB Biomaterials are disclosed which are comprised of [illegible] biocompatible, and bioabsorbable nonwoven fabric materials. The nonwoven fabric materials are comprised of threads imbedded in a matrix; both matrix and threads can be comprised of hyaluronic acid **esters**, singly or in combination with **esters** of **alginic** acid [illegible] other polymers. The fabric can be used for [illegible], surgery, etc. Prepn. of a variety of hyaluronic acid **esters** is described, as is manuf. of the fabric. A nonwoven [illegible] of hyaluronic acid benzyl **ester** was impregnated with vancomycin.

[illegible]

L[illegible] ANSWER [illegible] OF [illegible] STN INTERNATIONAL [illegible] AN
AN [illegible]
TI [illegible]
[illegible] **polysaccharide esters** [illegible]
[illegible]
IN [illegible], Arnold ; Tiffany, Neil ; Vallejos, Emiliano
PA [illegible] S.p.A., Italy
SO [illegible], Appl., 41 pp.
[illegible]
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	A1	[illegible]	[illegible]	[illegible]
W: AE, AG, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PG, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
AU [illegible]	A1	[illegible]	AU [illegible]	[illegible]
EP [illegible]	A1	[illegible]	EP [illegible]	[illegible]
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
US 6[illegible]	A	[illegible]	US [illegible]	[illegible]

PRAI IT [illegible]
[illegible]
AB [illegible] **esters** of acidic **polysaccharides**, such as [illegible], **alginic** acid, and CM cellulose, are [illegible] [illegible] inhibitors and gastroprotective agents. **Alginic** acid [illegible] **ester** It was orally administered to rats [illegible] [illegible] gastroprotective activity of [illegible] dose-dependent and its efficacy was greater than that of sucralfate. [illegible] to mix with water before use comprised granules [illegible]. [illegible] and Na [illegible] 45., colloidal silica 10, talc 3., aspartame 2., flavor [illegible], and glucose to 450 mg.

[illegible]

[illegible] ammonium [illegible]

IN [illegible], [illegible] Edward; [illegible], William [illegible]

PA [illegible] Inc., USA

SO PCT Int. Appl., 41 pp.

[illegible]

DT [illegible]

LA [illegible]

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	[illegible]	A1	[illegible]	W[illegible] 1991-[illegible]	[illegible]-16
	W: [illegible], FI, [illegible]				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, [illegible]				
	CA [illegible]	AA	[illegible]	CA 1991-[illegible]	[illegible]-16
	CA [illegible]	[illegible]	[illegible]		
	EP [illegible]	A1	[illegible]	EP 1991-[illegible]	[illegible]-16
	EP [illegible]	B1	[illegible]		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, [illegible], SE				
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]		
	AT [illegible]	E	[illegible]	AT 1991-[illegible]	[illegible]-16
	ES [illegible]	T3	[illegible]	ES 1991-[illegible]	[illegible]-16
PRAI	[illegible]	[illegible]			
	W[illegible] 1991-[illegible]	1991[illegible]-16			

AB The title salts, water-sol. and lacking side effects [illegible] intestinal and cell cytotoxicity, are [illegible] ammonio-.beta.-hydroxyalkyl ethers of chitosan and [illegible] physiol. acceptable water-sol. polyanions.. In-vivo assays [illegible] are described.

(12) ...

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(54) ...

(71) ...

(72) ...

(74) ...

(81) ...

(11) ...	KIND	DATE	(45) ...
(21) ...	A1	...	(65) ...
(22) ...	A1	...	
(30) ...	A1	...	

(51) ... (AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, ..., SE)

(11) ...	KIND	DATE	(45) ...
US ...	A	...	US ...
AT ...	B	...	AT ...
CA ...	AA	...	CA ...
AU ...	A1	...	AU ...
AT ...	B1	...	
CN ...	A	...	CN ...
JP ...	A1	...	JP ...
BR ...	A	...	BR ...

(54) US ...
US ...

(57) Abstract

Disclosed is a unique vehicle system which provides ... durable theril... properties formulated therewith, enhanced dispersion ... thereof therein, and improved deposition of actives therefrom. This ... system comprises a primary thickening agent which is a nonionic long-... alkylated water-soil... polymer, and a secondary thickening agent ... which is a water-soil... surfactant, dispersed in a compatible solvent. ... , a chelating aid, which is a chelating agent may be included in the ... system. Also, ... optionally, a dispersibility aid, which is a water-... ... thereof (either ... which may be ionic or nonionic character may be ... ... the world ...

[illegible]

L[illegible] ANSWER [illegible] OF [illegible] HIGHLIGHT [illegible] ACP

AN [illegible] HIGHLIGHT

TI **Polysaccharide** [illegible] thermoreversible gels

IN [illegible], Grant R.

PA [illegible] Mining and MFG. Co., USA

SO Brit. Pat. Appl., 8 pp.

CODEN: BAXXDW

DT Patent

LA English

FAN.CNT [illegible]

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI [illegible]	A2	[illegible]	EP [illegible]	[illegible]
[illegible]	A3	[illegible]		
[illegible]	B1	[illegible]		
R: DE, FR, GB, NL				
US [illegible]	A	19911105	US [illegible]	[illegible]
JP [illegible]	AA	[illegible]	JP [illegible]	[illegible]
IE [illegible]	A1	[illegible]	IE [illegible]	[illegible]

PRAI US 1990-611164 1990.11.9

AB Foamed and nonfoamed fillable gels are prepd. by mixing [illegible] COOH group-bearing **polysaccharides** contg. suspended di- [illegible] valent metal salts with aq. acids forming H2O-sol. products from these salts, and metal ions which complex with COOH groups. Thus, [illegible] suspension of [illegible] solid NaCO3 in [illegible] g 4.5% aq. Na **alginate** [illegible] with [illegible] 5% AcOH in a double-barrel syringe assembly [illegible] 1-element mixing tip to give a slightly foamed, homogeneous [illegible] approx.1 min.

[illegible]

[illegible] ANSWER [illegible] [illegible]
[illegible] [illegible]
[illegible]
[illegible] [illegible] [illegible]
ammonium [illegible]
IN Mitchell, James R.; Brownwell, Richard B.
PA Ecolab, Inc., USA
[illegible], [illegible]
[illegible]
[illegible]
LA English
[illegible]

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US [illegible]	A	[illegible]	US [illegible]	[illegible]

AB [illegible] film- [illegible] a sulfate [illegible] [illegible] two-[illegible] sanitizer compn. by: 1) forming a finely divided [illegible] [illegible] a [illegible] * aq. [illegible] **ammonium** salt and [illegible] [illegible] chlorinated polymer with acid functionalities; [illegible] the spray [illegible] the surface to form a sanitizing film; and [illegible] exposing the film to the environment to provide [illegible]. An aq. polymer dispn. was prepd. from [illegible] 40% active [illegible] polymeric acid polymer and water to [illegible] and sufficient [illegible] was added until the pH was [illegible]. A silk [illegible] * active alkyl [illegible] dimethylbenzyl **ammonium** chloride was dild. with water to [illegible] prayed with fresh silk [illegible] were allowed to air dry and were [illegible] with water at 1.5 gal/m for 5 min. After [illegible], these tiles were [illegible] with the [illegible] bacteria, and the no. of surviving [illegible] was evaluated. The [illegible] mean [illegible] of S. aureus was 5.5, compared to [illegible]. This is sufficient for use in sanitization in conjunction with [illegible] prepn.

[illegible]

[illegible]

[illegible]
Bailey, William B.; Burnett, Angela L.
Fire Chief's Technologies, Inc., USA
Brit. Pat. Appl., 11 pp.
[illegible]
[illegible]
[illegible]
[illegible]

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	A1	[illegible]	[illegible]	[illegible]
[illegible]	B1	[illegible]		
BE, CH, DE, FR, GB, IT, LI, NL				
[illegible]	A1	[illegible]	[illegible]	[illegible]
[illegible]	A1	[illegible]	[illegible]	[illegible]

[illegible] GB [illegible] [illegible] [illegible]

AB [illegible] fire-suppressing compns. are prepd. [illegible] typically [illegible] [illegible], a salt of a polymer, and an **NH4** salt [illegible]. The polymer is [illegible] polymer, **polysaccharide**, polyacrylamide, or a synthetic [illegible] having pendant free **carboxyl** groups in [illegible] neutralization of the free acid in an amt. sufficient [illegible] of the comp. The compns. addnl. contain a propellant or additive that vol. at low temps. as well as fire-[illegible] propellants and pressurizing gases. Thus, a compn. comprising NH4H [illegible], Carbopol 941 [illegible], CBrClF2 44.., and CBrF3 11.3% required 216 g [illegible] to extinguish a 5-ft2 heptane fire in a std. test.

[illegible]

AN [illegible]
TI [illegible]
IT [illegible]
SO [illegible]
IN [illegible]
PA [illegible]
DT [illegible]
LA [illegible]
PRAI [illegible]

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

AB Capsule walls are formed by ppts. of anionic and [illegible] polyelectrolytes at their interface. The anionic polyelectrolytes [illegible] are **carboxylate** and/or **polysaccharide** and/or synthetic polymers, and the cationic polyelectrolytes include [illegible] and **ammonium** surfactants and/or dyes. The microcapsules [illegible] are useful in [illegible] processes in preparative and anal. chem., [illegible] mfr., and in pharmacy, medicine, and agrichem. and food industries. Thus, [illegible] g Na alginate (I) (Kelco-6) with a degree of substitution of .4 was dissolved in 100 g H_2O, and the soln. was pressed through a .2-mm inner diam. capillary and dripped from a height of 3 cm into a stirred bath of 1% aq. methylene blue (II)-HCl (pH 3-4). After 5 min, the capsules formed were decanted and washed with H_2O. The deep-blue [illegible] had a diam. of 3-5 mm.

(19) NUMBER 4 [illegible] MARKING [illegible] A/C

(20) [illegible] MARKING

(21) [illegible]

(22) Hair pretreatment for [illegible] alkylene, preferably **ammonium** [illegible], and **polysaccharides**

(24) [illegible], Japan

(7) [illegible] Pokai Tokkyo Kho., [illegible] pp.

CODEN: JKXXAF

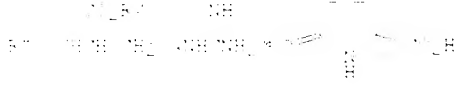
(1) Patent

(3) Japanese

(4) PATENT NO. | KIND | DATE | APPLICATION NO. | A D

PATENT NO.	KIND	DATE	APPLICATION NO.	A D
JP [illegible]	A2	[illegible]	JP [illegible]	[illegible]
JP 6[illegible]	B4	[illegible]		

(5) [illegible]



(57) Hair preps. that provide luster and elasticity in [illegible] contain **polysaccharides**, cationic surfactants, and high mol. wt. [illegible]. The **polysaccharides** are hyaluronic acid [9004-61-9], chondroitinsulfuric acid [9007-28-7], **alginic** acid [9005-32-7], and alkylene glycol **alginates**, and the cationic surfactants are selected from [1] [NR1R2R3R4]+ X1- (R1, R2, R3, and R4 = C8-22 alkyl, C8-22 hydroxyalkyl, Cl-3 alkyl, Cl-3 hydroxyalkyl, [illegible]; X1 = halogen, Me sulfate, or Et sulfate), [2] [NR5R6R7]+ X2- (R5, R6, and R7 = C8-22 alkyl, Me, Et, or hydroxyethyl; [illegible]; X2 = halogen, Me sulfate, or Et sulfate), and [3] [illegible] (R8 = C14-22 alkyl; R9 = C1-22 alkyl). The, e.g., preps. comprises hyaluronic acid [illegible], [illegible], **stearyltrimethylammonium** chloride [illegible], a mol. wt. of cetyl alc. [9004-24-4] and stearyl alc. [112-92-5], [illegible], a hydroxyethylene stearyl ether [9005-00-9], propylene glycol [illegible], and H2O to 100 g by wt.

... ... 6,11,11,14-21,26,27,38-42

L2 ANSWER 6 OF 45 USPATFULL
AN 1999:114... USPATFULL
TI Aqueous viscoelastic surfactant solutions for ... and skin cleansing
IN Brode, Glenn, Baltimore, Maryland, United States
Brode, Glenn, Baltimore, Maryland, United States
PA Henkel Aktiengesellschaft, Duesseldorf, Germany, Federal ... (non-U.S. corporation)
PI US ... ...
AI US ... ...
RLI Continuation of Ser. No. US 1996-... filed on ... ..., now ... abandoned
PRAI DE 1994-4416866 1994...
DT Utility
EXNAM Primary Examiner: Gupta, Yogendra; Assistant Examiner: ... Shaw, Thom R.
LREP Arnold, Spinella, McClellan, Maier & Neustadt, P.C.
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN ... Drawing Figure(s); ... Drawing Page(s)
LN.CNT ...
AB ... CLEANING IS AVAILABLE FOR THIS PATENT.
AB Aqueous, viscoelastic surfactant solutions for the ... and skin which contain:

A from 4 to 25% by weight of an anionic surfactant;

B from ... to 10% by weight of a betainic surfactant;

C from ... to 10% by weight of a nonionic surfactant;

D ... to 8% by weight of an electrolyte;

E from ... to 8% by weight of a water-soluble polymer; and

F from ... to 8% by weight of a further constituent in which the sum of the amounts of (A), (B), and (C) is at least 11% by weight and the sum of the amounts of (C), (D), and (E) is between 2 ... % by weight, in each case based on the total weight of the aqueous solution, and having a shear modulus, G'sur..., between 5 and 50 Pa ... a tangent between ... and 45 degrees, at 1 and a pH of from 4 to ..., and in which the conditions for the identity of the storage modulus, G', and the loss modulus, G", are in the angular frequency range from ... to ... and 6... rad/s, exhibit optimum flow behavior for the intended applications.

CA CLEANING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 11 OF 45 USPATFULL
AN 1989:4...8 USPATFULL
TI Preparation of lactams from **aliphatic** .alpha.,.omega.-... nitriles
IN Di Dosimo, Robert, Brookland, DE, United States
Fallon, Robert Donald, Elkton, MD, United States
Jarvella, John Edward, Wilmington, DE, United States
Hawkes, Frank Edward, Wilmington, DE, United States
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US ...
AI US ... ...
DT Utility
EXNAM Primary Examiner: Billing, Herbert J.
CLMN Number of Claims: ...
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT ...
AB CLEANING IS AVAILABLE FOR THIS PATENT.
AB A process for the preparation of five-membered ... and seven-membered ring lactams from **aliphatic** .alpha.,.omega.-dinitriles is ... The process ... from **aliphatic** .alpha.,.omega.-

[illegible] aliphatic [illegible]

aliphatic [illegible]

'PA INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 13 OF 45 USPATFULL
AN [illegible] USPATFULL
TI Non-woven fabric material comprising auto-crosslinked hyaluronic acid derivatives
IN [illegible], Franco, Via Sebastiani 25, 47 [illegible], Italy
[illegible], Lanfranco, Via Brera, 35, 20[illegible] Brugherio (Milano), Italy
Bonel, Aurelio, Viale Lodi 66, 20[illegible] San Donato Milanese (Milano), Italy
PI US 6[illegible] [illegible]
AI US 1998-47[illegible] 19980[illegible] (9)
RLI Continuation-in-part of Ser. No. US 1996-7[illegible], filed on 14 Dec 1995, now patented, Pat. No. US 5[illegible]
PRAI IT 1994-PD[illegible] 19941214
DT Utility
EXNAM Primary Examiner: Weber, Edward J.
LREP Birch, Stewart, Kolasch & Birch, LLP
CLMN Number of Claims: [illegible]
ECL Exemplary Claim: 1
DRWN [illegible] Drawing Figure(s); [illegible] Drawing Page(s)
LN.CNT [illegible]
'PA INDEXING IS AVAILABLE FOR THIS PATENT.
AB Biomaterials are disclosed comprised of biodegradable, biocompatible, and bioabsorbable non-woven fabric materials for use in **surgery** for the guided regeneration of tissues. The non-woven fabric materials constitute threads embedded in a matrix, wherein both the matrix and the threads constitute auto-crosslinked hyaluronic acid.

'PA INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 14 OF 45 USPATFULL
AN [illegible] USPATFULL
TI Coated papers
IN Malhotra, Shadi L., Mississauga, Canada
PA Xerox Corporation, Stamford, CT, United States (U.S. corporation)
PI US 57[illegible] [illegible]
AI US 1996-68[illegible] 19960[illegible]
DT Utility
EXNAM Primary Examiner: Chidambaram, Barnali B.
LREP Basch, S. D.
CLMN Number of Claims: [illegible]
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT [illegible]
'PA INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a coated paper which comprises a substrate; a [illegible] polymeric barrier layer comprised of a water [illegible] and a water [illegible] soluble antistat agent, said hydrophilic barrier layer [illegible] [illegible] of the substrate; and [illegible] overlying [illegible] said hydrophilic barrier layer, said [illegible] overlying [illegible] said [illegible] layer, [illegible] and wherein [illegible], said [illegible] comprises [illegible], and [illegible]

fixative, [illegible] pigment, [illegible] lightfastness [illegible], and [illegible] [illegible]. In another embodiment, the present invention [illegible] [illegible] paper which comprises [illegible] substrate; [illegible] hydrophilic [illegible] comprised [illegible] water insoluble component, [illegible] water [illegible] [illegible] agent, said hydrophilic [illegible] [illegible] [illegible] the substrate; [illegible] image [illegible] [illegible] said hydrophilic [illegible] layer, said [illegible] [illegible] [illegible] [illegible] polymeric binder, [illegible] agent, [illegible] agent, [illegible] pigment, and [illegible] an optional biocide.

[illegible] INDEXING IS AVAILABLE FOR THIS PATENT.

L[illegible] ANSWER 15 OF 4[illegible] USPATFULL
AN [illegible] USPATFULL
TI [illegible] polysaccharides
IN Della Valle, Francesco, Padua, Italy
Romeo, Aurelio, Rome, Italy
PA Fidia, S.p.A., Abano Terme, Italy (non-U.S. [illegible])
PI US [illegible] [illegible]
AI US [illegible]
RLI Continuation of Ser. No. US 1993-[illegible], filed [illegible] which is a continuation of Ser. No. US 1989-351913, filed [illegible] 1989, now abandoned
PRAI IT 1986-47[illegible]64 1986[illegible]513
DT Utility
EXNAM Primary Examiner: Peselev, Elli
LREP Birch, Stewart, Kolasch & Birch, LLP
CLMN Number of Claims: 6[illegible]
ECL Exemplary Claim: 1,[illegible]
DRWN No Drawings
LN.CNT [illegible]
[illegible] INDEXING IS AVAILABLE FOR THIS PATENT.
AB Inter and/or intramolecular cross-linked esters [illegible] polysaccharides [illegible] disclosed in which a part or all of the carb[illegible] [illegible] are esterified with hydroxyl groups of the same mole[illegible] [illegible] of different molecules of the acid polysaccharide. These inner [illegible]-linked esters of polysaccharide acids are useful in the field of [illegible] plastic materials, to manufacture sanitary and **surgical** [illegible], in the cosmetic and pharmaceutical fields, in the f[illegible] and in many other industrial fields.

[illegible] INDEXING IS AVAILABLE FOR THIS PATENT.

L[illegible] ANSWER 16 OF 4[illegible] USPATFULL
AN [illegible] USPATFULL
TI Composite membranes for the guided regeneration [illegible]
IN Corigatti, Franco, Lavis, Italy
Callegaro, Lanfranco, Ponte di Brenta, Italy
Romeo, Aurelio, Rome, Italy
PA M.U.R.S.T. (Italian Ministry for Universities and [illegible] and Technological Research), Rome, Italy (non-U.S. [illegible])
PI [illegible]
AI [illegible]
PRAI IT [illegible]
DT [illegible]
EXNAM Primary Examiner: Weiman, Edward J.
LREP Birch, Stewart, Kolasch & Birch, LLP
CLMN Number of Claims: [illegible]
ECL Exemplary Claim: 1
DRWN [illegible] Drawing Figure(s); [illegible] Drawing Page(s)
LN.CNT 144[illegible]
[illegible] INDEXING IS AVAILABLE FOR THIS PATENT.
AB [illegible] materials are disclosed comprised of [illegible], [illegible], and [illegible] composite membranes for use in **surgery** for [illegible] guided regeneration of tissues. The composite [illegible] are comprised of threads embedded in a matrix, where[illegible] the matrix and the threads [illegible] comprised of esters of hyal[illegible] [illegible] [illegible] [illegible] with

[illegible] **alginic** [illegible]

'98 INDEXING IS AVAILABLE FOR THIS PATENT.

L[illegible] ANSWER [illegible] OF [illegible] USPATFULL
AN [illegible] USPATFULL
TI [illegible] hyaluronic [illegible]
IN [illegible], Padua, Italy
[illegible], Padua, Italy
PA Fidia S.p.A., Abano Terme, Italy (non-U.S. corporation)
PI US [illegible]
AI US [illegible]
RLI [illegible], filed on [illegible], now abandoned
PRAI IT [illegible]
DT Utility
EXNAM Primary Examiner: [illegible], Patricia
LREP [illegible]
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT [illegible]
'98 INDEXING IS AVAILABLE FOR THIS PATENT.
AB A highly pure fraction of hyaluronic acid is disclosed which is non-inflammatory and avoids post-operative complications in topical surgery. Also disclosed is a process for the preparation of hyaluronic acid characterized by converting hyaluronic acid or a corresponding quaternary ammonium salt and, following purification steps, reconverting the quaternary ammonium salt into a pharmaceutically acceptable salt of hyaluronic acid.

'98 INDEXING IS AVAILABLE FOR THIS PATENT.

L[illegible] ANSWER [illegible] OF 48 USPATFULL
AN 98:48[illegible] USPATFULL
TI Non-woven fabric material comprising hyaluronic acid derivatives
IN [illegible], Trento, Italy
[illegible], Cavaion, Verona, Italy
[illegible], Rome, Italy
PA M.U.R.S.T. (Italian Ministry for Universities and Technological Research, Rome, Italy (non-U.S. corporation)
PI US 5[illegible]
AI US [illegible]
PRAI IT [illegible]
DT Utility
EXNAM Primary Examiner: Webman, Edward J.
LREP Birch, Stewart, Kolasch & Birch
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure s ; 2 Drawing Page s
LN.CNT [illegible]
'98 INDEXING IS AVAILABLE FOR THIS PATENT.
AB Biomaterials are disclosed comprised of biodegradable, biocompatible, and pharmaceutically acceptable non-woven fabric materials for use in **surgery** for the guided regeneration of tissues. The non-woven biomaterials are comprised of threads embedded in a matrix, with both the matrix and the threads can be comprised of esters of hyaluronic acid, used singly or in combination, or esters of hyaluronic acid in combination with esters of **alginic** acid or other polymers.

'98 INDEXING IS AVAILABLE FOR THIS PATENT.

L[illegible] ANSWER [illegible] OF [illegible] USPATFULL
AN [illegible] USPATFULL
TI [illegible] esters
IN [illegible], Pisa, Italy
[illegible], Arezzo, Italy
PA [illegible], S.p.A., Abano Terme, Italy (non-U.S. corporation)

[illegible]

AN [illegible]
TI [illegible]
IN [illegible]
PA [illegible]
PI [illegible]
AI [illegible]
[illegible]
PRAI [illegible]
DT Utility
EXNAM Primary Examiner: Acquah, Samuel A.
LREP Burns, Doane, Swecker & Mathis
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWG No Drawings
LN.CNT [illegible]
AB New poly(phosphazene) esters are disclosed, which include only esters of aliphatic polycarboxylic acids such as the [illegible] Such esters are poly[bis(carboxymethylphenoxy)phosphazene], poly[bis(carboxymethylphenoxy)phosphazene] and poly[bis(carboxymethyl)phosphazene]. These new esters and some esters of the type also known are useful as pharmaceuticals, in the manufacture of pharmaceuticals [illegible] preparations, in the field of biodegradable plastic [illegible] materials and, in fact, for the manufacture of medical, **surgical** [illegible] articles, as well as [illegible] Also disclosed is a process for the preparation of aliphatic polycarboxylic esters which [illegible]

L1 ANSWER 1 OF 46 USPATFULL
AN 2001:41961 USPATFULL
TI New esters of **alginic** acid
IN Della Valle, Francesco, Padua, Italy
Romeo, Aurelio, Rome, Italy
PA Fidia, S.p.A., Abano Terme, Italy (non-U.S. corporation)
PI US 6214817 B1 20010410
AI US 1998-71444, filed [illegible]
[illegible]
RLI Division of Ser. No. US 1997-68611, filed [illegible], now patented, Pat. No. US 5844411 which is a division of Ser. No. [illegible], filed on 24 Jun 1997, now abandoned
PRAI IT 1996-RM000146 19960630
DT Utility
FINAM Primary Examiner: Robinson, Douglas W.; Assistant Examiner: Lee, Howard C.
LREP Burns, Doane, Swecker & Mathis
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWG No Drawings
LN.CNT [illegible]
NO INDEXING IS AVAILABLE FOR THIS PATENT.
AB Partial esters of **alginic** acid and salts thereof [illegible] important bioplastic and pharmaceutical qualities [illegible] useful in various fields including medical, **surgical**, pharmaceutical [illegible] fields.

NO INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 11 OF 46 USPATFULL
AN [illegible] USPATFULL
TI Esters of **alginic** acid
IN Della Valle, Francesco, Padova, Italy
Romeo, Aurelio, Rome, Italy
PA Fidia, S.p.A., Abano Terme, Italy (non-U.S. corporation)
PI US 5166686 19921124
AI US 1991-[illegible] 19910628
[illegible]
RLI Continuation of Ser. No. US 1987-[illegible], filed on [illegible], now abandoned
PRAI IT 1986-[illegible] 19861205
DT Utility
FINAM Primary Examiner: Griffin, Ronald W.
LREP Burns, Doane, Swecker & Mathis
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWG No Drawings

IN. [illegible]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB [illegible] and partial [illegible] of **alginic** acid [illegible] important plastic and pharmaceutical qualities [illegible] useful in [illegible] fields including medical, **surgical**, [illegible] fields.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER [illegible] OF 45 USPATFULL
AN [illegible] USPATFULL
TI Cationized polysaccharide derivatives with hypo[illegible]lemic activity
IN [illegible], Franco, Milan, Italy
PA Etablissement Texcontor, Liechtenstein, Italy [illegible] corporation
PI [illegible]
AI [illegible]
RLI Continuation of Ser. No. US [illegible], filed [illegible], now abandoned
PRAI [illegible]
DT Utility
EXNAM Primary Examiner: Griffin, Ronald W.; Assistant Ex[illegible]: White, Everett
LREP Parkhurst, Wendel & Rossi
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 4[illegible]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Cationized derivatives of natural polysaccharides [illegible] a polyglucoside structure with 5[illegible]-5[illegible] monomer units and one or [illegible] side chains bonded to the glucoside nucleus by a nitrogen or oxygen [illegible] an amide group, said side chains having one or more quaternary n[illegible] atoms so that each monomer unit has a cation charge density ex[illegible] two. The new compounds are particularly active as hypocholeste[illegible] agents.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER [illegible] OF 45 USPATFULL
AN 91:[illegible] USPATFULL
TI Biphenyl derivative composition for nerve cell de[illegible]ation repairing or protective agent and process for preparing a phe[illegible] [illegible]vative contained in the composition
IN Tanaka, Tatsuyoshi, Tokushima, Japan
Sakurai, Yoji, Tokushima, Japan
Okazaki, Hiroshi, Tokushima, Japan
Hasegawa, Takashi, Tokushima, Japan
Fukuyama, Yoshiyasu, Tokushima, Japan
PA Otsuka Pharmaceutical Company, Ltd., Tokyo, Japan [illegible] (non-U.S. corporation)
PI US 5053548 1991[illegible]
AI US 1990-476913 19900208 (7)
PRAI JP 1989-29983 19890208
JP 1989-299415 19891116
DT Utility
EXNAM Primary Examiner: Gerstl, Robert
LREP Sughrue, Mion, Zinn Macpeak & Seas
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 274[illegible]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB There is disclosed a biphenyl derivative of the f[illegible] ##STR1## wherein R.sup.1, R.sup.3, R.sup.4, R.sup.5 and R[illegible] are as defined or its salt, a composition for nerve cell degenerat[illegible] repairing or protective agent containing a phenyl derivative [illegible] compounds [illegible] and B as defined, and a process for [illegible] a phenyl derivative contained in the composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER [illegible] OF 45 USPATFULL
AN [illegible] USPATFULL

TI The [illegible]
IN Mihara, Hisayuki, [illegible], Hachimantai, Miyagi-ken, Miyazaki-ken, [illegible]
Ito, [illegible], Miyazaki, Japan
Matsuba, Akira, Fukuoka, Japan
Inouye, Takashi, Kagoya, Japan
PA Amano Pharmaceutical Kabushiki Kaisha, Aichi, Japan (non-U.S. corporation)
Mihara, Hisayuki, Miyazaki, Japan (non-U.S. inventor)
PI US 4806348 [illegible]
AI US [illegible] [illegible] 6
PRAI JP 1981-173869 19811102
JP 1982-8846 19820121
DT Utility
EXNAM Primary Examiner: Shapiro, Lionel M.
LREP Fitzpatrick & Prince
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 4r Drawing Figure s ; 2 Drawing Page s
LN.CNT 2414
NO INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention discloses that the tissues of earthworms contain fibrinolytically or thrombolytically active ingredients which can be extracted and purified by a suitable sequence of fractionation and purification procedures into the individual active principles including six novel proteases named P-O-HM-48, P-I-1-HM-84, P-I-2-HM-18, P-II-HM-84, P-III-1-HM-87 and P-III-2-HM-87. The [illegible] fractionation of the earthworm extract with an [illegible] bifunctional gives five active fractions, the first five of which [illegible] one of the first mentioned five proteases and the last of which contains the last mentioned two proteases. The disclosure includes [illegible] of the suitable purification methods for the proteases as well as the physico-chemical identification data thereof. Various [illegible] thrombolytic medicament forms prepared with the novel protease [illegible] the effective ingredient are described together with the results of the clinical tests carried out by the oral administration of the new proteases.

NO INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 3 OF 48 USPATFULL
AN 1988:87476 USPATFULL
TI Stabilized [illegible] aqueous fluids
IN Sandell, Lionel S., Hagerstown, MD, United States
PA E. I. Du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 4786417 19881122
AI US 1985-415641 19850907 (6)
DT Utility
EXNAM Primary Examiner: Guynn, Herbert B.
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 961
NO INDEXING IS AVAILABLE FOR THIS PATENT.
AB Thickeners, preferably galactomannans, in aqueous solutions or slurries, e.g., water gel explosives, oil well [illegible] fluids, and hydraulic fracturing fluids, are stabilized [illegible] thermal degradation by incorporating iodide and/or iodate [illegible] the solution or slurry. The preferred stabilizer is the iodide [illegible] dissolving an alkali metal or alkaline earth metal iodide, or ammonium or alkyl-substituted ammonium iodide, in the aqueous phase.

NO INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 4 OF 48 USPATFULL
AN [illegible]
TI Multicapillary [illegible] blood cells
IN Lin, Franklin, Richmond, VA, United States

[illegible]

NO DRAWING IS AVAILABLE FOR THIS PATENT.

AB [illegible] ammonium [illegible] phosphate; [illegible] pyrophosphate; [illegible] pyrophosphate; [illegible] phosphate; [illegible] pyrophosphate; ammonium, [illegible] amide and melamine polyphosphates; ammonium-alkali metal [illegible] of ortho-, pyro- and polyphosphates; ammonium-alkaline earth [illegible] mixed salts of ortho-, pyro- and polyphosphates; and mixtures [illegible]. There are also [illegible] with aqueous forms and concentrated [illegible] forms of the compositions which are particularly useful for [illegible], extinguishing and suppressing forest fires.

NO DRAWING IS AVAILABLE FOR THIS PATENT.

[illegible]

L[illegible] ANSWER [illegible] OF 48 USPATFULL

TI [illegible] crosslinked carboxy polysaccharides

PI [illegible]

AB . . . These inner cross-linked esters of poly[illegible] acids are useful in the field of biodegradable plastic [illegible], to manufacture sanitary and **surgical** articles, in the cosmetic [illegible] pharmaceutical fields, in the food industry and [illegible] other industrial fields.

SUMM . . . the use of the new inner esters, for example in the field of biodegradable plastic materials, to manufacture [illegible] and **surgical** articles, in the cosmetic and pharmaceutical [illegible], in the food industry and in many other industrial fields.

SUMM . . . as the natural ones of animal or vegetable [illegible], and synthetic derivatives of the same, but above all [illegible] acid, **alginic** acid, carboxymethylcellulose, carboxymethyl[illegible] referred to as "carboxymethylamide" and carboxymethyl[illegible]. Also the external partial esters of acidic polysaccharides, [illegible] of hyaluronic acid and **alginic** acid, may serve as [illegible] compounds. The partial esters of carboxymethylcel[illegible], of carboxymethylamide and carboxymethylchitin which [illegible] used as. . .

SUMM . . . formation of activated esters are those, [illegible], carbodiimides, dicyclohexylcarbodiimide, benzyl-[illegible]-carbodiimmide, benzyl-ethyl-carbodiimmide; ethoxyacetylene; Wood[illegible]'s reagent (N-ethyl-5-phenylisoxazolium-3'-sulfonate), or [illegible] derivatives from **aliphatic**, cycloaliphatic or aromatic hydrocarbons, [illegible] heterocyclic compounds with halogen made mobile [illegible] presence of the [illegible] activation. . .

SUMM . . . sulfoxides, such as tetramethylene sulfoxide, [illegible] polymethylene sulfones, such as tetramethylene [illegible], sulfolane and lower alkyl dialkylamides of lower **aliphatic** acids [illegible] the alkyl groups have a maximum of six carbon atoms, [illegible] dimethyl [illegible] diethyl formamide or. . . also be used, however, [illegible] these need not always be aprotic, such as alcohols, ethers, ketones, esters, such as lower **aliphatic** dialkyloxyhydrocarbides, such as [illegible]-methoxyethane and especially **aliphatic** or heter[illegible] alcohols and ketones with a low boiling point, [illegible] lower N-alkyl-pyrrolidones, such as N-methylpyrrolidone, N-ethyl-pyrrolidone, hexafluoroisopropanol. . . [illegible] organic bases and especially tertiary [illegible] pyridine and its homologues, such as collidine, [illegible] **aliphatic** amine bases, such as triethylamine or N-methyl-pi[illegible].

SUMM . . . particular lower alkyl dialkylsulfoxides [illegible] maximum of 6 carbon atoms, particularly dimethylsulfoxide, and [illegible] lower alkyl dialkylamides of lower **aliphatic** acids, such as [illegible] formamide or dimethyl or diethyl acetamide [illegible]

with the preferably within a temperature ...
As ... especially the **alkyl** ... **ammonium**
salts ... **ammonium** ...,
... **alkyl** ... have preferably between 1 and ...
atoms ... **ammonium** ...
quaternary **ammonium** salts can be prepared by ...
salt of the acidic **polysaccharide**, in part ...
esterified, preferably one of the mentioned ..., ... sodium
or potassium salt, in aqueous **solution** with a ...
... with a quaternary **ammonium** base. ... alkyl
ammonium ... of the **polysaccharide** ester can be
obtained by freeze-drying the eluate. These ...
in the above ... solvents, ... that ...

... The salts ... bases are especially those ... **aliphatic**,
araliphatic, cycloaliphatic or heterocyclic amines ... salts
of this type may derive from therapeutically acceptable ... inactive,
amines, or from amines with a therapeutic action. ... special
consideration should be given to **aliphatic** amines, ...
example, mono, di and trialkylamines, with alkyl ... with a maximum
of 18 carbon atoms, or arylalkylamines with the ... of carbon
atoms in the **aliphatic** part and where aryl means ...
group possibly substituted by between 1 and 3 ... As
therapeutically acceptable. ...

... starting materials for the procedure of the invention. The
invention especially concerns cross-linked acidic polysaccharides
derived from hyaluronic acid, from **alginic** acid, ...
carboxymethylcellulose, from carboxymethylamide ...
carboxymethylchitin.

... due to the biological origin of the starting substrate, which
permits the new crosslinked substances to be used in ... cosmetics,
surgery and **medicine** in general.

... the ... known as "noninflammatory-NIF-NaH ... hyaluronate",
described by Balazs in the pamphlet "Healon"--A ... its use in
Ophthalmic **Surgery**--D. Miller & R. Stegmann, eds. ... Wiley &
Sons N.Y. ... p.5.

The **alginic** acid to be used to prepare new derivatives may be
obtained by extraction from various natural materials, especially from
brown ... it was gathered, on the origin and ... of the plant. The
main species of brown algae used to obtain **alginic** ... are
for example Macrocystis pyrifera, Laminaria Cloustonii, Laminaria
hyperborea, Laminaria Flexicaulis, Laminaria digitata, Ascophyllum
nodosum and Fucus serratus. **Alginic** acid is found in the
algae as a diffuse component of the cell walls in the form of a mixture
of its various alkaline salts, among which features especially sodium
salt, a mixture known also as **algin**. These salts ... usually
extracted in aqueous conditions with a solution ... carbonate and
from this extract **alginic** acid can be obtained ... by
precipitation with an acid, for example a mineral acid such as
hydrochloric acid, or ...

Alginic acid or alkaline **alginates** can however be
obtained by microbiological methods, for example by fermentation with
Pseudomonas aeruginosa or Pseudomonas putida, Pseudomonas fluorescens or
Pseudomonas mendocina mutants. Preparation of the ... types of
alginic acid is described in literature. For the purposes of the
present invention, purified **alginic** acid ...

... above mentioned procedure, or whether ... at the
end of the procedure, the alcohols may belong to the **aliphatic**
, araliphatic, alicyclic or heterocyclic series.

Alcohols of the **aliphatic** series for use as esterifying
components are for example those with a maximum ... atoms,
which can be ... two hydroxyl groups, by ... groups or
... Of the above groups containing hydroxyl, ... alcohols, there
should preferably be ... **aliphatic** radicals, ...
alkyls, with a maximum of ... carbon atoms ... may ... be
interrupted in the carbon ...

Of the ... **aliphatic** saturated alcohols, the ...
should be given as examples: methyl alcohol and ethyl alcohol, ... of
special importance for ...

Of the araliphatic alcohols, special mention ...

[illegible] which the **aliphatic** chain [illegible]
[illegible]
aliphatic chain may be substituted by [illegible]
[illegible]
[illegible] **aliphatic** [illegible] may preferably have a maximum of 14 carbon atoms, may be unsaturated and may contain one or more substituents, such as those mentioned [illegible] the **aliphatic** alcohols. Of the alcohols derived from [illegible] cyclic carbohydrates, special mention should be [illegible] those with a maximum of. . . .

Aliphatic-cycl aliphatic polycyclic alcohols [illegible] the esters of the present invention are steroids, [illegible] and steroids, such as. . . .

Heterocyclic alcohols may be considered to be [illegible] of the above said cycloaliphatic or **aliphatic**-cycl aliphatic alcohols, if their linear or cyclic chains are interrupted by [illegible], for example between one and three ethers. . . .

. . . . is greatly prolonged. The pharmacologically [illegible] alcohols with which to esterify such cross-linked products of [illegible] acid are preferably lower **aliphatic** alcohols with a maximum [illegible] carbon atoms, especially saturated monovalent alcohols, [illegible] ethanol, propyl alcohol, isopropyl alcohol, and. . . .

. . . . esters of these cross-linked products, [illegible] are those deriving from therapeutically inactive alcohols, [illegible] for example saturated or unsaturated **aliphatic** alcohols, for [illegible] unsubstituted alcohols of this kind with a straight [illegible] ramified chain, for example with between 1 and. . . . bonds, such [illegible] vinyl or allyl alcohols and their condensed derivatives, or poly[illegible] alcohols, such as glycerine. Also useful are **aliphatic** alcohols, for example those derived from cyclopentane or cyclohexane [illegible] derivatives substituted by lower alkyl groups, for example [illegible] with between 1 and 4 carbon atoms, especially by methyl groups. [illegible] interesting are also esters with cycloaliphatic and **aliphatic** -cycl aliphatic alcohols derived from terpenes, [illegible] those mentioned above and from therapeutically active alcohols, [illegible] are also useful in. . . .

Extremely important is the use of cross-linked [illegible] hyaluronic acid for the manufacture of sanitary [illegible] **surgical** items. The esters of these cross-linked products [illegible] preferably those mentioned above for use in cosmetics.

. . . . systemic effect thanks to transcutaneous [illegible], for example in suppositories. All these applications [illegible] both in human and veterinary **medicine**. In human **medicine** [illegible] new medicaments are particularly suitable for [illegible] use. The present invention includes in particular any one of these [illegible]. . . .

. . . . in cross-linking are preferably free [illegible] are esterified with pharmacologically inactive alcohols, for example one of the lower **aliphatic** alcohols mentioned previously. [illegible] cosmetic articles can however also contain groups [illegible] with alcohols which have themselves a cosmetic action. . . .

An important object of the present invention is [illegible] by sanitary and **surgical** articles, by their manufacturing [illegible] their use. These articles are for example similar [illegible] already known and. . . .

Surgical and sanitary articles of special importance [illegible] those which can be obtained from appropriate solutions [illegible] cross-linked products in organic liquids which are capable of [illegible] into films, sheets and threads to be used in **surgery** as [illegible] substitutive articles for the skin in cases of [illegible] damage to this organ, such as burns, or as suture threads in **surgery**. [illegible]
[illegible]

. . . . [illegible] **aliphatic** [illegible] between 1 and [illegible] carbon atoms and deriving from [illegible] with between 1 and [illegible] carbon atoms, ...

. . . . [illegible] solvent which must be miscible with the [illegible]

aliphatic

wounds

surgery

medicine

surgery

medicine

surgery

wounds

surgical

alginic

alginic

alginic

alginic

alginic

... acid tetrabutylammonium salt from **alginic** acid ... in DMSO ... Dimethylformamide ... 1 mEq ... monomeric unit are solubilized in ... of DMSO. ...

[181] Preparation of Cross-linked **Alginic** Acid

[182] 4.17 g of **alginic** acid tetrabutylammonium salt ... **alginic** acid obtained from Laminaria hyperborea ... 1 mEq of a monomeric unit are solubilized in ... of DMSO. ...

[183] Preparation of the Partial Ethyl Ester of Cross-linked **Alginic** Acid

[184] 4.17 g of **alginic** acid tetrabutylammonium salt ... **alginic** acid obtained from Ascophyllum nodosum ... 1 mEq of a monomeric unit are solubilized in ... of DMSO. ...

[185] Preparation of the Partial Ethyl Ester of Cross-linked **Alginic** Acid

[186] 4.17 g of **alginic** acid tetrabutylammonium salt ... **alginic** acid obtained from Laminaria hyperborea ... 1 mEq of a monomeric unit are solubilized in ... of DMSO. ...

[187] Preparation of the Ethyl Ester of Cross-linked **Alginic** ...

[188] 4.17 g of **alginic** acid tetrabutylammonium salt ... **alginic** acid obtained from mature cystis pyrifera ... 1 mEq of a monomeric unit are solubilized in ... of DMSO. ...

[189] The following preparations exemplify the medical ... according to the invention containing the **alginic** esters.

"[0]" What is claimed is:

... 1. Cross-linked acidic polysaccharides according to claim 1, wherein said polysaccharides are selected from the group consisting of hyaluronic acid, **alginic** acid, carboxymethylcellulose, and carboxymethylchitin.

... 7. Cross-linked acidic polysaccharides according to claim 6, wherein said alcohol is a member selected from the group consisting of **aliphatic**, araliphatic, cycloaliphatic and heterocyclic alcohols.

8. Cross-linked acidic polysaccharides according to claim 7, wherein said alcohols of the **aliphatic** series have a maximum of 34 carbon atoms and may be substituted by one or two functional groups selected from ... wherein the hydrocarbyl radical of these groups have a maximum of 6 functionally modified carbon atoms, and alcohols of the **aliphatic** series may be interrupted in the carbon atom chain by heteroatoms selected from the group consisting of oxygen, sulfur and ...

... polysaccharides according to claim 7, wherein said alcohols of the araliphatic series have only one benzene residue ... have an **aliphatic** chain with a maximum of 4 carbon atoms and ... in the benzene residue may be substituted by between 1 and 3 methyl or hydroxy groups, or by halogen atoms, and wherein the **aliphatic** chain may be substituted by one or two functions selected from the group consisting of free amino groups, mono- or ...

14. Cross-linked acidic polysaccharides according to claim 7, wherein said alcohols of the cycloaliphatic or **aliphatic** -cycloaliphatic series are mono- or polycyclic hydrocarbons with a maximum of 34 carbon atoms.

15. Cross-linked acidic polysaccharides according to claim 7, wherein said heterocyclic alcohols are mono- or polycyclic cycloaliphatic or **aliphatic** cycloaliphatic alcohols interrupted in the carbon atom chain by one or more heteroatoms selected from the group consisting ...

16. A salt according to claim 17, wherein said ... **aliphatic**, araliphatic, cycloaliphatic or heterocyclic ...

... mono-, di- and tri-alkylamines with a maximum of 6 carbon atoms, hydroxyalkylamines with a maximum of 6 carbon atoms, **aliphatic** part and a benzene group as an aromatic ..., optionally substituted by between 1 and 3 methyl ... or halogen. ...

... 25. Cross-linked acidic polysaccharides in a salt ... according to claim 2, wherein said polysaccharide is **alginic** ...

. . . [illegible] partially cross-linked hyaluronic acid, wherein [illegible] partially cross-linked hyaluronic acid includes a portion [illegible] carboxy groups esterified with a lower **aliphatic** alcohol, and [illegible] includes a portion of carboxy groups salified with [illegible] alkaline metal.

[illegible]. A cross-linked polysaccharide according to [illegible], which is a totally or partially cross-linked **alginic** acid, wherein said partially cross-linked **alginic** acid includes a portion [illegible] carboxy groups esterified with a lower **aliphatic** [illegible], and optionally includes a portion of carboxy groups [illegible] alkaline metal.

[illegible]. A compound according to claim [illegible], selected from the group consisting of: **alginic** acid cross-linked to an extent of 1% [illegible] carboxy groups and salified with sodium to an extent [illegible]%; **alginic** acid cross-linked to an extent of 5% of the carboxy groups and salified with sodium to an extent of [illegible]%; **alginic** acid cross-linked to an extent of 1[illegible]% of the carboxy groups and salified with sodium to an extent of [illegible]%; **alginic** acid cross-linked to an extent of [illegible]% of the carboxy groups and salified [illegible] sodium to an extent of 75%; **alginic** acid cross-linked to an extent [illegible]% of the carboxy groups and salified with sodium to an extent of [illegible]%; **alginic** acid cross-linked to an extent of [illegible]% of the carboxy groups and salified with sodium to an extent of [illegible]%; **alginic** acid cross-linked to an extent of 1[illegible]% of the carboxy groups; **alginic** acid cross-linked to an extent of [illegible]% of the carboxy groups, esterified with ethanol to an extent of [illegible]% and salified with sodium to an extent of [illegible]%; **alginic** acid cross-linked to an extent of [illegible]% of the carboxy groups, esterified with ethanol to an extent of 5[illegible]% and salified with sodium to an extent [illegible]%; and **alginic** acid cross-linked to an extent of [illegible]% of the carboxy groups and esterified to an extent of 75% with ethanol.

. . . [illegible] totally or partially cross-linked carboxymethyl[illegible], wherein said partially cross-linked carboxymethylchitin includes a portion of carboxy groups esterified with a lower **aliphatic** alcohol, and optionally includes a portion of carboxy groups [illegible] with an alkaline metal.

41. A sanitary or **surgical** article containing a [illegible] polysaccharide according to claim 1.

42. A sanitary or **surgical** article according to [illegible], comprised of threads or films of a cross-linked [illegible] polysaccharide.

43. A sanitary or **surgical** article according to [illegible], comprised of capsules for the subcutaneous implantation of medicaments.

44. A sanitary or **surgical** article according to [illegible] 41, comprised of microcapsules for subcutaneous, [illegible] or intravenous injection.

45. A sanitary or **surgical** article according to [illegible], comprised of solid inserts adapted to be removed [illegible] certain length of time.

46. A sanitary or **surgical** article according to [illegible], comprised of sponges for the medication of **wounds** [illegible].

[illegible]. A sanitary or **surgical** article according to [illegible], wherein the polysaccharide is hyaluronic acid.

4[illegible]. A sanitary or **surgical** article according to [illegible], wherein the polysaccharide is **alginic** acid.

. . . [illegible]. A process according to claim [illegible], wherein said [illegible] aprotic solvent is a dialkylsulfoxide or a dialkylamide of a lower **aliphatic** alcohol with an alkyl having a maximum of 6 carbon atoms.

[illegible] alginate [illegible]
[illegible] alginate, [illegible]
[illegible] alginate [illegible]
[illegible] alginate [illegible]
wounds, [illegible] alginate fibres. Calcium
alginate [illegible]
[illegible] alginate are used [illegible]
[illegible] alginate are used in the treatment
[illegible], [illegible],
[illegible] and calcium alginates are also used as [illegible]
[illegible] pills, and [illegible] alginate is also used [illegible]
properties.

Also used in industry in many of the above-mentioned [illegible] are the
alginic acid esters or salts of such esters, mainly propylene
ethyleneglycol and propylene glycol esters. The [illegible] is used [illegible]
[illegible], published by Academic Press, Inc. (1955), pp. 433-443. The
[illegible] esters have been obtained by [illegible] alginic
acid, i.e. salt or partial salt, with ethyleneoxide
respectively. This preparation method is also [illegible] patent for
the preparation of the above mentioned alginic [illegible] and
esters of bivalent alcohols by reaction of an aliphatic
hydroxy-halogen epoxide, possibly substituted in the [illegible] by hetero atoms
in the carbon atom chain (see for example U.S. Pat. [illegible]).

The alginic acid esters obtainable by the action of the above
mentioned epoxides on the free acid or its salts [illegible] of
glycol esters with a low molecular weight, and a [illegible] low degree in the
[illegible] of glycol esters with long chains. It has not
been possible until now to prepare partial esters [illegible].

Bivalent alcohol esters, with aliphatic and [illegible] have
also been mentioned in literature, as the all [illegible] of
alginic acid obtained by reaction of alginic acid
in ethereal solution of diazomethane. (Helv. Chim. Acta, Vol. 41, p. 161, 1958, A. B. Steiner, Inc. [illegible],
1961, U.S. Patent No. [illegible]). It seems however [illegible] products
obtained by reaction with diazomethane are not simply alginic
acid esters but rather methyl esters of an alginic [illegible]
partially etherified to the hydroxy alcohol groups, as described for
example in Example 4 of the above mentioned U.S. [illegible]. The methyl
ester has also been obtained by reaction of diazomethane on a
soluble salt of alginic acid in an organic solvent [illegible] low
solubility in water, but in the presence of water [illegible] Pat. No.
[illegible]). The product obtained, referred to as [illegible] alginic
acid or methyl alginate, is not to be considered [illegible] ate
ester, since it is known that sugar hydroxyls are [illegible] etherified
with [illegible].

Also mentioned in literature are alginic acid esters [illegible] of
monovalent alcohols, with no indication however [illegible] preparation
method and no description of their chemical and [illegible] mixed products,
as in the case of methyl products. (See for example U.S. Pat. No.
[illegible]). In addition propyl alginate is mentioned [illegible]
[illegible] of the [illegible] preparation method, [illegible] absence of real
[illegible] (official), page 5, [illegible].

[illegible] the basis of these facts therefore, it is [illegible] all
alginic acid esters only those esters of bivalent [illegible] alcohols
which, and not principally only the partial esters [illegible] glycols, which
[illegible].

The main object of the invention is therefore the [illegible] alginic
esters, such as those already mentioned, and the [illegible] suitable for their
preparation.

The present invention [illegible] new [illegible] and in the
principally alginic acid esters and method [illegible]
preparation.

The invention [illegible] the use of these alginic [illegible]
esters [illegible] alginic esters in the [illegible], paper, [illegible],

cosmetic industries, in the pharmaceutical sector, [illegible] **medicine** and **surgery** and also [illegible], therefore, new [illegible] containing **alginic** acid esters for use in these [illegible] industrial sectors, for example, for [illegible], [illegible], pharmaceutical preparations, biodegradable plastic [illegible] for medical-**surgical** use. The new esters according to the invention include total **alginic** acid esters and partial esters. In the partial esters the non-esterified [illegible] may be salified with metals or organic [illegible].

[illegible] The present invention includes a simple and very [illegible] procedure for the preparation of **alginic** esters, based on the treatment of quaternary ammonium salts of **alginic** acid with [illegible] conventional alkylating agents in organic, preferably aprotic, solvents, such as in dimethylsulfoxide, making a large number of new **alginic** esters available, especially those esters of monovalent [illegible], such as homologues of methyl ester, and esters of aromatic, [illegible] aliphatic, alicyclic [illegible]. The procedure may be used also for the preparation of esters deriving from substituted alcohols, in particular [illegible] known esters of bivalent **aliphatic** alcohols, obtainable by the [illegible] of **alginic** acid with **aliphatic** epoxides, as mentioned above, and mainly new total esters of such bivalent [illegible].

[illegible] The new **alginic** esters may be used in various sectors of industry and in the pharmaceutical, sanitary, **surgical** and cosmetic fields, where metal **alginates** or the esters of **aliphatic** bivalent alcohols of the type of propylene glycol ester of **alginic** acid are already used, for example in the food and cosmetic industries. Therefore, part of the invention is represented by both this use of the new esters, and the corresponding articles and industrial products, such as cosmetic, sanitary, **surgical** and pharmaceutical articles, or food products and their accessories, especially emulsifying agents, emulsion stabilisers, and thickening agents and possibly related [illegible].

[illegible] With the discovery of the new **alginic** esters according to the present invention, a new use for **alginic** esters in general has also come to light, that is for the new esters and those already known. This new [illegible] substances, especially those with [illegible] local, oral or rectal action, but also those for parenteral administration. The use of known **alginic** esters of bivalent alcohols was limited to the function of emulsifying agents, emulsion stabilisers, thickening agents and possibly related uses. No use in the pharmaceutical, sanitary, medical, **surgical** or cosmetic fields was envisaged for these esters. The present invention therefore concerns [illegible] above mentioned use and respective products, especially the pharmaceutical preparations containing an **alginic** ester as vehicle for the active substances.

[illegible] substance as their alcohol component. Of the pharmaceutical preparations of the present invention, therefore, particularly interesting are those containing an **alginic** ester deriving from a therapeutically active alcohol, such as those mentioned hereafter, that is, esters comprised of **alginic** [illegible] esterified with the alcohol moiety of a therapeutically active compound.

[illegible] The invention also includes partial **alginic** esters [illegible] metals or organic bases. In the following description, where the meaning does not exclude this, the terms "**alginic** acid esters" [illegible] "**alginic** esters" shall be taken to mean both the esters themselves and their above mentioned salts. In particular, in the above mentioned pharmaceutical preparations, the [illegible] pharmacologically active substances may be vehicled, apart from by [illegible] pharmacologically active or inactive **alginic** esters, also by pharmacologically active basic substances used to salify part of [illegible] free carboxyl groups of partial **alginic** esters.

[illegible] The use of the above mentioned alkaline **alginates** in [illegible] various sectors of industry, pharmaceutics, **surgery** [illegible] above all in the food industry, presents some disadvantages when they are used in acid conditions, because of the resulting release of **alginic** acid with low solubility which may separate in the [illegible]. Also in the presence of calcium ions, some insoluble [illegible] containing calcium **alginate** may separate, and for this reason such [illegible] **alginates** are unsuitable for use in liquid [illegible] above mentioned [illegible], for example in [illegible]

[illegible]

[illegible] **alginic** [illegible]

[illegible] **alginates** [illegible]

[illegible] **alginic** [illegible]

[illegible] **alginates** [illegible]

[illegible] **aliphatic**, [illegible]

[illegible]

[illegible] **alginic** [illegible]

surgical [illegible]

[illegible] **alginic** [illegible]

[illegible] **surgical** [illegible]

[illegible] **alginates**, [illegible]

[illegible]

[illegible] **alginic** [illegible]

[illegible]

[illegible] **alginic** [illegible]

[illegible]

[illegible] **alginic** [illegible]

[illegible] **surgical** [illegible]

[illegible] **alginic** [illegible]

[illegible] **aliphatic**, [illegible]

[illegible] **aliphatic** [illegible]

[illegible]

[illegible] **alginic** [illegible]

[illegible]

[illegible] **alginic** [illegible]

[illegible]

previous groups. That is, esters in which part [illegible] **alginic** acid are esterified with a pharmacologically active alcohol and in the part with a pharmacologically inert alcohol, if the activity of [illegible]

SUMM Most of the esters of **alginic** acid, in contact [illegible], present a certain degree of solubility in [illegible]. This solubility depends on the [illegible] esterified part and [illegible] the type of alkyl group bound to the part acyl. For example, a total ester of **alginic** acid thus obtained presents at [illegible] temperature good solubility, for example, in dimethylformamide. The total esters which are all new. [illegible]

SUMM [illegible] in saline and have the particular desirable [illegible]. Such articles may be prepared for example by dissolving an ester of **alginic** acid in an organic solvent, giving the extremely [illegible] solution the form of the desired article and lastly by extraction with organic solvent with another solvent which can be mixed with the first, but in which the **alginic** acid ester is insoluble, for example an alcohol or water.

SUMM The invention includes the industrial use of the new **alginic** esters in all the aforementioned sectors, especially in the alimentary, cosmetic, pharmaceutical and medical fields, in the manufacture of household and industrial articles, especially for the manufacture of sanitary and **surgical** articles.

SUMM The invention includes also the use of **alginic** esters in general, that is the new ones and those already described in literature, for the new applications described here, for example the use as vehicles for pharmacologically active substances, also in the form of **alginic** esters with therapeutically active alcohols, the use of **alginic** esters of inert alcohols to mix with therapeutically active substances, or with therapeutically active bases as well as the pharmaceutical medicaments or preparations resulting from this use of **alginic** esters. In all cases the free carboxy groups may be salified with inactive but therapeutically acceptable bases.

SUMM The main object of the present invention is therefore represented by the total or partial esters of **alginic** acid with alcohols of the **aliphatic**, araliphatic, cycloaliphatic or heterocyclic series and by the salts of such partial esters with inorganic or organic bases, with the exception of the partial esters of bivalent **aliphatic** alcohols.

SUMM A further object of the invention is represented by the procedure for the preparation of **alginic** esters characterised by the treatment of a quaternary ammonium salt of **alginic** acid with an etherifying agent in an aprotic solvent, and, if desired, by the salification of the free carboxy groups with inorganic or organic bases, and the partial **alginic** esters thus obtained.

SUMM A third object of the invention is represented by the use of the new **alginic** esters and their salts, in substitution of the general **alginates** or of the **alginates** of **aliphatic** bivalent alcohols, in the respective industrial sectors or in their applications in the cosmetic, pharmaceutical or sanitary-**surgical** fields, and by the respective products or industrial articles.

SUMM A fourth object of the invention is represented by the use of **alginic** esters as vehicles for pharmaceutically active substances and by pharmaceutical preparations or medicaments containing:

SUMM a) a carrying vehicle containing a total or partial ester of **alginic** acid or salts of such partial esters with inorganic or organic bases, or pharmaceutical preparations or medicaments containing an **alginic** ester possibly salified with inorganic or organic bases, in which at least one ester group or a salified carboxy group. [illegible]

SUMM Alcohols of the **aliphatic** series for use as esterifying components of the carboxy groups of **alginic** acid according to the present invention are, for example, those with a maximum of 24 carbon atoms, which may be [illegible]

SUMM In the above groups containing hydrocarbyl radicals there are preferably lower **aliphatic** radicals, such as heteroatoms, [illegible] oxygen, nitrogen and sulfur. Preference is given to alkyl substituted with one or two [illegible]

SUMM Of the higher saturated **aliphatic** alcohols, those with [illegible] of

[illegible] example ethyl alcohol [illegible], but especially important for the purpose. . .

. . . The aliphatic alcohols to be [illegible] those with only one hydroxyl and in which the **aliphatic** chain has a maximum of 4 carbon atoms, in which [illegible] may be substituted by between 1 and 3 methyl groups or by halogen atoms, especially chlorine, bromine or iodine and in which the **aliphatic** chain may be substituted by one or more [illegible] groups selected from the group consisting of free [illegible] groups. . .

The alcohols of the cycloaliphatic or **aliphatic** [illegible] series may derive from mono or polycyclic hydrocarbons and may have a maximum of 34 carbon atoms. Of the. . .

Polycyclic **aliphatic** cycloaliphatic alcohols for [illegible] obtaining the esters of the present invention are [illegible], while acids and steroids, such as. . .

The total and partial esters of **alginic** acid and [illegible] the invention have the following general formula: ##STR1## wherein R.sup.1 and R.sup.2 are each independently hydrogen or a [illegible] moiety selected from the group consisting of **aliphatic**, [illegible] cycloaliphatic and heterocyclic radicals and pharmaceutically acceptable salts thereof with the proviso that said partial ester is not a. . .

As discussed above, in some cases **alginic** acid esters in which the ester groups derive from one or more hydroxy [illegible] with therapeutic action, may be of. . . with the same or similar activity as that of the esterifying component. In particular, it is possible to have **alginic** esters deriving in the [illegible] from an anti-inflammatory steroid, such as one of those mentioned above, and in the. . .

The degree of esterification of **alginic** acid with the above mentioned alcohols depends first and foremost on the [illegible] properties desired for the various fields of. . . to such a [illegible], for example the skin. Usually, a high degree of esterification [illegible] point of total esterification of **alginic** acid increases its lipophilic character and therefore decreases its solubility [illegible]. For a use in therapy of the new. . . utmost importance to [illegible] the degree of esterification in order to ensure, despite good [illegible] increased lipophilia compared to metal **alginates**, a sufficient degree of hydrosolubility, for example a solubility of 10 mg/l. Naturally it is necessary to consider also the. . .

As has been said previously, esterification of the hydroxy groups of **alginic** acid may play several roles, to be exploited in various fields, for example in **medicine**, using the esters as therapeutic agents or in **surgery** using them as plaster articles. For use in therapy we have already said that esterification of an alcohol can in itself be considered therapeutically active, such as anti-inflammatory corticosteroids for example, with **alginic** acid as a means of improving therapeutic efficacy.

With regard to similar therapeutically active alcohols **alginic** acid acts therefore as a particularly efficient vehicle which is perfectly compatible with the biological environment. Many of these pharmacologically. . . esters with therapeutically active alcohols it is possible to esterify part or all of the remaining hydroxy groups of the **alginic** component with pharmacologically inert alcohols, such as for example saturated lower **aliphatic** alcohols, for example ethyl or isopropyl alcohols.

. . . drugs than those available up till now. It is possible for example to obtain drugs with a "retard" action with **alginic** esters with therapeutically active alcohols, possibly solubilized also with therapeutically active bases.

For cosmetic purposes it is preferable to use total or partial esters of **alginic** acid with pharmacologically inert alcohols, for example saturated or unsaturated **aliphatic** alcohols, for example substituted alcohols of this type with straight or ramified chains, for example between 1 and 6 carbon. . .

. . . example alkyls with between 1 and 4 carbon [illegible], especially the methyl groups. Particularly interesting are those with cycloaliphatic and **aliphaticcycloaliphatic** alcohols derived from terpenes, such as those mentioned above and also therapeutically active alcohols, which can otherwise be used in. . .

The alcohols to be used preferably for the manufacture of sanitary and

surgical ... are essentially the same as ... [illegible] ... at the ... [illegible] ... use.

... Thus, for example, for the manufacture of tablets, **surgical** ... it is preferable to use partial esters ... with a high ... degree of esterification, for example between ... *.

... ... are those partial esters in which ... [illegible] ... at the most ... * of all the carboxy groups of **alginic** ... [illegible] ..., and especially those with a percentage of between ... * ... be used preferably for alimentary, ...

... Of particular interest are the salts with ... [illegible] ..., especially acidified bases and, therefore, **aliphatic**, ... [illegible] ..., cycloaliphatic or heterocyclic amines. These ... [illegible] ... may derive from therapeutically acceptable amines ... [illegible] ... therapeutically inactive amines, or from amines with a therapeutic ... [illegible] ... of the first type, preferred are **aliphatic** amines, for example mono-, di- and trialkylamines with alkyl groups with a max... [illegible] ... carbon atoms or arylalkylamines with ... [illegible] ...

... Examples of specific useful drugs are all those ... [illegible] ... mentioned above having acidified basic groups regarding the **alginic** ... [illegible] ... with therapeutically active alcohols or those mentioned elsewhere in this text, for example the various antibiotics.

... ... the partial esters with the aforesaid ... [illegible] ... pharmaceutically active bases and the use of such salts represents a part... [illegible] ... of the **alginic** esters functioning as a vehicle, obtainable ... [illegible] ... simple addition to the active substance of partial ... [illegible] ... esters in ... [illegible] ...

... The vehicling action of **alginic** esters therefore ... [illegible] ... possibilities for new medicaments wherein the ... [illegible] ... are:

... In an **alginic** ester as described above or one of ... [illegible] ...

... These medicaments are a further object of the invention. The **alginic** esters for use in these medicaments are ... [illegible] ... those in which the esterifying alcohol is itself not pharmacologically active, for example a simple **aliphatic** alcohol, as described above. Included in the invention however are medicaments of this type in which the ester is also ... [illegible] ...

... In such medicaments, if partial esters of **alginic** ... [illegible] ... used, the possible salification of the remaining free ... [illegible] ... groups is carried out preferably with therapeutically ... [illegible] ... basic ... [illegible] ... corresponding association of substances have ... [illegible] ..., such as for example antibiotics containing amino groups, and ... [illegible] ... partial esters of **alginic** acid are used with remaining free carboxy ... [illegible] ..., a salt is formed between the free carboxy groups of **alginic** ... [illegible] ... and those basic substances. The basic substance may ... [illegible] ... be excessive, thus having basic salts. The new medicaments therefore include in particular the partial esters of **alginic** acid partially salified with pharmacologically active substances ... [illegible] ... basic character, as described above. The non-esterified carboxy ... [illegible] ... also ... [illegible] ...

... The use of **alginic** esters as a vehicle is particularly useful in ophthalmology, where it is possible to observe particular compatibility of the ... [illegible] ...

... By using the esters of the present invention these difficulties can be overcome. The presence of the **alginic** ester as vehicle in ophthalmic drugs allows for the formulation of excellent preparations with no concentration gradient of the active ... [illegible] ...

... ... systemic effect thanks to transcutaneous ... [illegible] ..., for example in suppositories. All these applications ... [illegible] ... both in human and veterinary **medicine**. In human **medicine** the new medicaments are particularly suitable for ... [illegible] ... administration. The present invention therefore also includes in part... [illegible] ... pharmaceutical ... [illegible] ...

... ... details with respect to their use in the ... [illegible] ... various fields of therapy, beginning with the distinction between human and veterinary **medicine** and then specifying the various sectors ... [illegible] ... with respect to the organs or tissues to be treated, ... [illegible] ... as ... [illegible] ... anti-inflammatory, vasoconstrictor, antibacterial, ... [illegible] ... viral drug. In the field of ophthalmology, the indications can ... [illegible] ... particular for example: mydriatic, anti-inflammatory, **wound** healing, anti-microbial effects.

... ... of several antibiotics with the ... [illegible] ... activity, the ... [illegible] ... mydriatic antibiotics with a mydriatic or a cycloplegic **wound** healer or an anti-allergic agent etc. For example ... [illegible] ... use

... f ... with an ... platelets ... pritalmic acid ... diethylhexylphenylphosphine-hexamethylene. ...

... . . . association of various active substances ... f ... use limited to these fields, but in all the ... sh ... **medicine** it is possible to use associations similar ... to those already in use for the pharmaceutical preparations ... with the ...

... . . . the term defined to mean wherein the ... l ... of a basic character, the salts formed with ... **alginic** ... may be of various types. That is, all of the ... ic, ... may be salified ... fully ... . . .

According to a main aspect of the invention, the medicaments containing the **alginic** ester or its salts are ... with therapeutically active or inactive substances as ... e ... except possibly an aqueous. . . . all types of ... ments described here and also mixtures of such ... , as well as possibly mixtures of the new **alginic** esters with ... **alginic** acid or mixtures of their salts, for example ... salts.

... . . . hydrocortisone, prednisolone, fluocinolone, ... and possibly their esters, for example propionate, ... ; bacteriostatic anti-inflammatories, for example indomethacin, ... fenbufen, flurbiprofen; **wound** healers such as epidermal ... EGF; local anesthetics, such as Benoxinate, ... and possibly their salts; cholinergic agonists such. . .

... . . . substances are used, such as those ... above, the salts of the basic active substances and the partial ... **alginic** acid may be mixed salts of one or more of such ... substances or possibly mixed salts of this type. . . . with the ... mentioned metals or bases. For example it is possible ... salts of a partial ester of **alginic** acid with a pharmacologically ... inactive alcohol, for example a lower alkanol, ... with a certain percentage of the acid groups. . . . one of the ... above mentioned metals. It is possible to mix this type of mixed salt ... with free **alginic** acid or its fractions or their metal salts, ... indicated above for the medicaments constituted by salts of only one. . .

... . . . to determine by analogy which medicaments ... according to the present invention are to be used in the other ... of **medicine** mentioned above, such as otolaryngology or ... in internal **medicine**. For example, in endocrinology, it is ... use preparations absorbed intradermally or through ... , for example by rectal. . .

... METHODS OF PREPARATION FOR THE **ALGINIC** ESTERS

According to the chemically new and original ... of the present invention, the **alginic** acid esters may be prepared ... advantage starting with quaternary ammonium salts of **alginic** acid with an etherifying agent in a preferably ... organic solvent, such as dialkylsulfoxides, dialkylcarboxamides, ... in particular lower alkyl dialkylsulfoxides, above all dimethyl ... , and lower alkyl dialkylamides of lower **aliphatic** acids, ... dimethyl or diethyl formamide or dimethyl or diethylacetamide. ... is possible, however, to use other solvents which are not always ... such as alcohols, ethers, ketones, esters, especially **aliphatic** ... heterocyclic alcohols and ketones with a low boiling point, such as hexafluoroisopropanol and trifluoroethanol. The ... is brought about. . .

The preferred esterification process, therefore, ... is reacting, in an organic solvent, a quaternary ammonium salt of **alginic** acid with a stoichiometric quantity of a compound of the formula ... wherein A is selected from the group consisting ... **aliphatic**, araliphatic, cycloaliphatic, **aliphatic**-cyclical ... and heterocyclic radicals and X is a halogen atom, the ... said stoichiometric quantity of A--X is determined by ... . . .

As starting quaternary **ammonium** salts it is preferable to use lower **ammonium** tetraalkylates, the **alkyl** groups having preferably between 1 and 6 carbon atoms. Finally, the **alginate** of **tetrabutylammonium** is used. These quaternary **ammonium** salts can be prepared by reacting a metal salt of **alginic** acid, preferably one of the metals mentioned above, especially sodium or potassium salt, in aqueous **solution** with a sulfonic resin salified with the quaternary **ammonium** ...

The **tetraalkylammonium alginates** [illegible] **alkyls**, especially **alkyls** with between 1 and [illegible] atoms, are new and form another object of the present invention. Unexpectedly, these salts proved to be soluble in [illegible] solvents, and esterification of **alginic** acid with [illegible] the preparation of new products is therefore made possible [illegible] in high yields. Only by using this procedure, [illegible], is it possible [illegible] to esterify a high number of carboxy groups of **alginic** acid [illegible] to be esterified.

SUMM [illegible] the variation of the previously specified process consisting in treating a tetraalkylammonium salt of **alginic** acid, suspended [illegible] solvent such as dimethylsulfoxide, with [illegible] alkylating agent in the presence of a catalyzing [illegible] salt, [illegible] as tetrabutylammonium iodide. The new procedure makes [illegible] obtain, as already stated, the total esters of **alginic** acid and also substituted alcohols such as glycols, which [illegible] previously unobtainable.

SUMM To prepare new esters according to the present invention it is possible to use **alginic** acids of any origin, such as for example the acids extracted from the algae mentioned hereinbefore. The preparation of these acids is described in literature. It is preferable to use purified **alginic** acids.

DETD Preparation of the Tetrabutylammonium Salt of **Alginic** Acid

DETD 1 m. Eq. of a sodium salt of **alginic** acid, [illegible] g. of dry compound, are solubilized in [illegible] ml of distilled water. The solution is then [illegible]

DETD Preparation of the (Partial) Ethyl Ester of **Alginic** Acid--10% of the Carboxy Groups Esterified--90% of the Carboxy Groups Salified

DETD 1 g (13.9 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from Laminaria hyperborea) are solubilized in 400 ml of DMSO at [illegible] C. [illegible] g (1.39 m. Eq.). [illegible]

DETD Preparation of the (Partial) Ethyl Ester of **Alginic** Acid--30% of the Carboxy Groups Esterified--70% of the Carboxy Groups Salified

DETD 1 g (13.9 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from Ascophyllum nodosum) are solubilized in 400 ml of DMSO at 25° C. 1.61 g (9.19 m. Eq.). [illegible]

DETD Preparation of the (Partial) Ethyl Ester of **Alginic** Acid--50% of the Carboxy Groups Esterified--50% of the Carboxy Groups Salified

DETD 1 g (13.9 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from Macrocystis pyrifera) are solubilized in 400 ml of DMSO at 25° C. 1.22 g (11.9 m. Eq.). [illegible]

DETD Preparation of the (Partial) Ethyl Ester of **Alginic** Acid--70% of the Carboxy Groups Esterified--30% of the Carboxy Groups Salified

DETD 1[illegible] g (13.9 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from Laminaria hyperborea) are solubilized in 400 ml of DMSO at 25° C. 1.64 g (16.7 m. Eq.). [illegible]

DETD Preparation of the (Partial) Ethyl Ester of **Alginic** Acid--90% of the Carboxy Groups Esterified--10% of the Carboxy Groups Salified

DETD 1[illegible] g (13.9 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from Macrocystis pyrifera) are solubilized in 400 ml of DMSO at 25° C. 3.17 g (21,5 m. Eq.). [illegible]

DETD Preparation of the (Partial) Isopropyl Ester of **Alginic** Acid--30% of the Carboxy Groups Esterified--1% of the Carboxy Groups Salified

DETD 1 g (13.9 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from Ascophyllum nodosum) are solubilized in 4[illegible] ml of DMSO at 25° C. 1.57 g (10,5 m. Eq.). [illegible]

DETD Preparation of the (Partial) Isopropyl Ester of **Alginic** Acid--70% of the Carboxy Groups Esterified--1% of the Carboxy Groups Salified

DETD 1 g (13.9 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from Laminaria hyperborea) are solubilized in 4[illegible] ml of DMSO at [illegible] (16.7 m. Eq.). [illegible]

[illegible] Preparation of the (Partial) Isopropyl Ester of **Alginic** Acid--[illegible]% of the Carboxy Groups Esterified--[illegible]% of the Carboxy Groups Salified

[illegible] 1.0 g (1.[illegible] m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from M[illegible] pyrifera) are solubilized in 4[illegible] ml of DMSO at [illegible]. 11.[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Isopropyl Ester of **Alginic** Acid--[illegible]% of the Carboxy Groups Esterified--[illegible]% of the Carboxy Groups Salified

[illegible] 1.0 g (1.[illegible] m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from A[illegible] nodosum) are solubilized in 4[illegible] ml of DMSO at [illegible]. 1.4 g (1.[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Isopropyl Ester of **Alginic** Acid--[illegible]% of the Carboxy Groups Esterified--[illegible]% of the Carboxy Groups Salified

[illegible] 1.0 g (1.5 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from L[illegible] hyperborea) are solubilized in 4[illegible] ml of DMSO at [illegible]. C. [illegible].42 g [illegible].[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Terbutyl Ester of **Alginic** Acid--[illegible]% of the Carboxy Groups Esterified--[illegible]% of the Carboxy Groups Salified

[illegible] 1.0 g (2.[illegible] m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from A[illegible] nodosum) are solubilized in 400 ml of DMSO at 25.[illegible] C. 3. 4.1 g (21.5 m. Eq.).

[illegible] Preparation of the (Partial) Terbutyl Ester of **Alginic** Acid--70% of the Carboxy Groups Esterified--30% of the Carboxy Groups Salified

[illegible] 1.0 g (23.3 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from L[illegible] hyperborea) are solubilized in 400 ml of DMSO at [illegible]. C. [illegible].14 g [illegible].[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Terbutyl Ester of **Alginic** Acid--50% of the Carboxy Groups Esterified--50% of the Carboxy Groups Salified

[illegible] 1.0 g (2.3 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from M[illegible] pyrifera) are solubilized in 400 ml of DMSO at [illegible]. 2.[illegible] g [illegible].[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Terbutyl Ester of **Alginic** Acid--30% of the Carboxy Groups Esterified--70% of the Carboxy Groups Salified

[illegible] 1.0 g (3.3 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from L[illegible] hyperborea) are solubilized in 400 ml of DMSO at [illegible]. C. 1.84 g [illegible].[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Terbutyl Ester of **Alginic** Acid--10% of the Carboxy Groups Esterified--90% of the Carboxy Groups Salified

[illegible] 1.0 g (23.3 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from M[illegible] pyrifera) are solubilized in 4[illegible] ml of DMSO at [illegible]. [illegible].[illegible] g [illegible].[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Benzyl Ester of **Alginic** [illegible]--[illegible]% of the Carboxy Groups Esterified--[illegible]% of the Carboxy Groups Salified

[illegible] 1.0 g (2.3 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from A[illegible] nodosum) are solubilized in 4[illegible] ml of DMSO at 25.[illegible] C. 3.[illegible] g (21.5 m. Eq.).

[illegible] Preparation of the (Partial) Benzyl Ester of **Alginic** [illegible]--[illegible]% of the Carboxy Groups Esterified--[illegible]% of the Carboxy Groups Salified

[illegible] 1.0 g (2.3 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from L[illegible] hyperborea) are solubilized in 4[illegible] ml of DMSO at [illegible]. C. [illegible].[illegible] g [illegible].[illegible] m. Eq.).

[illegible] Preparation of the (Partial) Benzyl Ester of **Alginic** [illegible]--5[illegible]% of the Carboxy Groups Esterified--[illegible]% of the Carboxy Groups Salified

[illegible] g (1.0 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from A[illegible] hyperborea) are solubilized in 40 ml of DMSO at [illegible] m. Eq.

Preparation of the Partial Benzyl Ester of **Alginic** Acid--75% of the Carboxy Groups Esterified--25% of the Carboxy Groups Salified

[illegible] g (1.0 m.Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from A[illegible] hyperborea) are solubilized in 40 ml of DMSO at [illegible] m. Eq.

Preparation of the Partial Benzyl Ester of **Alginic** Acid--50% of the Carboxy Groups Esterified--50% of the Carboxy Groups Salified

[illegible] g (1.0 m.Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from M[illegible] pyrifera) are solubilized in 40 ml of DMSO at [illegible] m. Eq.

Preparation of the Methyl Ester of **Alginic** Acid

[illegible] g (1.0 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from A[illegible] hyperborea) are solubilized in 40 ml of DMSO at [illegible] m. Eq.

Preparation of the Benzyl Ester of **Alginic** Acid

[illegible] g (1.0 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from M[illegible] pyrifera) are solubilized in 40 ml of DMSO at [illegible] g. 4.48 g (1.0 m. Eq.).

Preparation of the Ter-butyl Ester of **Alginic** Acid

1.0 g (1.0 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from L[illegible] hyperborea) are solubilized in 400 ml of DMSO at [illegible]. 4.48 g (1.0 m. Eq.).

Preparation of the Isopropyl Ester of **Alginic** Acid

1.0 g (1.0 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from L[illegible] hyperborea) are solubilized in 40 ml of DMSO at [illegible]. 4.48 g (1.0 m. Eq.).

Preparation of the Ethyl Ester of **Alginic** Acid

1.0 g (1.0 m. Eq.) of the tetrabutylammonium salt of **alginic** acid (prepared from **alginic** acid obtained from A[illegible] nodosum) are solubilized in 40 ml of DMSO at [illegible] m. Eq.

Preparation of the Amikacin Salt of **Alginic** Acid Partially Esterified with Ethanol--75% of Carboxylic Groups Esterified With Ethanol--25% of Carboxylic Groups Salified With Amikacin

[illegible] g of a 75% ethyl ester of **alginic** acid and [illegible] at 25% (corresponding to 1 m. Eq. of a monomeric unit relative to the non-esterified carboxyl),

Preparation of Erythromycin Salt of **Alginic** Acid Partially Esterified With Ethanol--75% of Carboxylic Groups Esterified With Ethanol--25% of Carboxylic Groups Salified With Erythromycin

[illegible] g of a 75% ethyl ester of **alginic** acid and [illegible] salt at 25% (corresponding to 1 m. Eq. of a monomeric unit relative to the non-esterified carboxyl),

Preparation of Streptomycine Salt of **Alginic** Acid Partially Esterified With Ethanol--75% of Carboxylic Groups Esterified With Ethanol--25% of Carboxylic Groups Salified With Streptomycine

[illegible] g of a 75% ethyl ester of **alginic** acid and [illegible] salt (corresponding to 1 m. Eq. of a monomeric unit relative to the non-esterified carboxyl), are.

Preparation of the Partial and Mixed Ethanol and Propanediol Esters of **Alginic** Acid--40% of Carboxylic Groups Esterified With Ethanol--20% of Carboxylic Groups Esterified With Propanediol--40% of Salified Carboxylic Groups Na

[illegible] g of the tetrabutylammonium salt of **alginic** prepared from Laminaria hyperborea [illegible] m. Eq. of a monomeric unit are solubilized in 40 ml of.

Preparation of the Partial Esterification of Ethanol and **Alginic** Acid--20% of Esterified Carboxylic Groups--80% of Salified Carboxylic Groups Na

4.0 g of the tetrabutylammonium salt of **alginic**

prepared from Laminaria hybrida [illegible] 1 m. Eq. of a monomeric unit are stabilized in [illegible] ml of [illegible].

[illegible] Preparation of the Mixed Ethanol and Hydrolyzed Ester of **Alginic** Acid--- * of Partially Esterified Carboxylic Groups Esterified with Ethanol--- * of Carboxylic Groups Esterified with [illegible] Alcohol

[illegible] 4.1 g of the tetraethylammonium salt of **alginic** acid prepared from Laminaria hybrida [illegible] 1 m. Eq. of a monomeric unit are stabilized in [illegible] ml of [illegible].

[illegible] Preparation of the Partial Hydrolysate Ester of Alcohol of **Alginic** Acid--- * of Esterified Carboxylic Groups--- * of Salified Carboxylic Groups (Na

[illegible] 4.8 g of the tetraethylammonium salt of **alginic** acid prepared from Macrocystis pyrifera corresponding to 1 m. Eq. of a monomeric unit are stabilized in 15 ml of [illegible].

[illegible] Preparation of the Mixed Ethanol and Hydrolyzed Ester of **Alginic** Acid---- * of Carboxylic Groups Esterified with Ethanol---* of Carboxylic Groups Esterified With [illegible] Alcohol

[illegible] 4.1 g of the tetraethylammonium salt of **alginic** acid prepared from Macrocystis pyrifera corresponding to 1 m. Eq. of a monomeric unit are stabilized in 15 ml of [illegible].

[illegible] Preparation of the Partial and Mixed Ethanol and Hydrolyzed Ester of Alcohol of **Alginic** Acid--4 * of Carboxylic Groups Esterified With Ethanol---* of Carboxylic Groups Esterified With Hydrolyzed [illegible] Alcohol --4 * of Salified Carboxylic Groups (Na

[illegible] 4.1 g of the tetraethylammonium salt of **alginic** acid prepared from Macrocystis pyrifera corresponding to 1 m. Eq. of a monomeric unit are stabilized in 15 ml of [illegible].

[0015] PHARMACEUTICAL PREPARATIONS OF THE **ALGINIC** ESTERS

[0016] One object of the present invention is the pharmaceutical preparations containing one or more **alginic** acid esters as described above as active principles or medicaments resulting from the association of such an ester with a pharmacologically active substance as described above, that is medicaments in which the **alginic** ester acts as a vehicle for the active substance.

[0017] The pharmaceutical preparations containing therapeutically active **alginic** esters, possibly in the form of the above salts or hydrates resulting from the association of components [illegible], that is the [illegible].

[0018] [illegible] of the therapeutically active alcohol, [illegible] can thus be exploited. In this way, for example, the dosage [illegible] **alginic** ester with cortisone may be derived from its content in this same steroid and from its usual dosage in the [illegible].

[0019] The particular form of pharmaceutical preparation [illegible] presented by the above-said medicaments constituted by the association [illegible] **alginic** ester and an active substance, for example [illegible] oral use. These may also be in solid form, for example [illegible]. These solutions are preferably made with distilled water [illegible] sterile saline and preferably contain no other pharmaceutical vehicle [illegible] the **alginic** ester or one of its salts.

[0020] [illegible] that is with a physiologically tolerable pH. Adjustment of the pH, for example in the above mentioned salts of the **alginic** acid esters with a basic active substance, may be effected by suitably regulating the quantities of polysaccharide, itself and of the basic substance itself. In this way, for example, if the salt of an **alginic** ester salt with a basic substance is [illegible], an excess of free acid groups can be neutralized with [illegible].

[0021] In the cosmetic articles according to the invention the **alginic** esters and their salts are mixed with the excipients usually used in this field and are for example those already used for the pharmaceutical preparations. Above all are used [illegible], ointments, lotions for topical use in which the **alginic** ester [illegible] or its salts may constitute the active cosmetic principle [illegible] with the addition of other cosmetically active [illegible], such as for example steroids, for example prednisolone, [illegible] principles previously mentioned. In these preparations the **alginic** ester may be admixed with a cosmetically active agent [illegible] preparations [illegible] with an ester with an [illegible] **aliphatic** [illegible], for [illegible] of

... to be active in that the effect is due to the ... molecule ... platform. It is particularly the ... alginic acid or its salts.

... for example disinfectant substances, ... preservatives, pharmaceutical active ..., ... dyestuffs, especially perfumes. In this case the alginic ... that should not, attack the active ingredient ... with which it is to be in the form of ... aliphatic ... very little substance for that ... with the ...

... partial ester of alginic acid with ... butyl ...

... partial ester of alginic acid with ... butyl ...

... formulation containing a partial ester of alginic acid with ethyl alcohol, of which ... pharmaceutical ...

... partial ester of alginic acid with ethyl alcohol, ...

Medical Articles Containing the Alginic Esters

... the important application of the present invention ... in the sanitary and surgical articles already described, the ... their manufacture and their use. The invention thereof ... has all the articles similar to those already in the market ...

alginic acid or containing an alginic ester or its salts in place of the free acid or the ... for example inserts. ...

... completely new surgical and sanitary articles ... the present invention are represented by the esters of alginic acid regenerated as such from appropriate organic ... and capable of being made into sheet and thread form, thus ... films, sheets and threads for use in surgery, as skin auxiliaries ... substitutes in cases of serious damage to this ..., such as for example following burns, or as suture threads in surgical operations. The invention included in particular ... and a preparation procedure for such articles consisting ... of alginic ester or of one of its salts ... appropriate organic solvent, for example a ketone, ... or another solvent such as an amide of a carboxylic ..., especially a dialkylamide of an aliphatic acid with between ... and carbon atoms and deriving from alkyl groups with ... and ... carbon atoms, ...

... by contact with another organic or aqueous ..., capable of being mixed with the first solvent and in which the alginic ester is not soluble, especially a lower aliphatic ..., for example ethyl alcohol (wet spinning), it ... solvent with a fairly low boiling point have been used to prepare ... solutions of alginic derivative, in removing such solvent under ... conditions with a current of gas, and especially ... heated nitrogen (dry spinning). ...

The threads obtained with the alginic acid esters ... used for the preparation of gauzes to be used for the ... of wounds and in surgery. These gauzes have the exceptional advantage of biodegradability in the ..., made possible by the naturally existing enzymes. These enzymes ... the ester into alginic acid and the corresponding alcohol, when ... alginic ester deriving from a therapeutically ... alcohol is used, such as ethyl alcohol.

These gauzes and also the aforesaid threads may ... also be left inside the organism after surgery, being then ... dissolved after the previously mentioned periods of ...

... the preparation of the aforesaid sanitary and surgical articles, it is convenient to add plasticizers ... to their mechanical characteristics, and in ... of great importance also is the preparation of ... with alginic esters, solving the problems previously ... with their use, which till now very limited, ... the ...

A further application of the new esters in the ... medicine and surgery involves the preparation of a wide ... of solid inserts such as plates, discs, lamina, ... the like ... of a pharmaceutical nature, such as inflammation ... of alginic esters, this latter ...

the application to the medical-surgical field [illegible]
esters according to the present invention, which [illegible] with
adaptable material, especially in the form of sp[illegible], [illegible] the
medication of wounds of various types of lesions.

[illegible] The following preparations exemplify the [illegible] according to
the invention containing the alginic esters.

[illegible] Preparation of Films Using Esters of Alginic A[illegible]

[illegible] A solution is prepared in dimethylsulfoxide of [illegible] propyl ester of
alginic acid with a concentration of [illegible] grams. The [illegible]
thus obtained is pressed by means of a pump thr[illegible] [illegible].

[illegible] Preparation of a Spongy Material Made With Alginic [illegible]

[illegible] 1 g of benzyl ester of alginic acid in which all th[illegible]
carboxylic groups are esterified, obtained for example as described in
Example [illegible], are dissolved in [illegible].

[illegible] Preparation of a Spongy Material Made With Alginic [illegible] Esters

[illegible] In the manner described in Example [illegible], it is possible to prepare spongy
materials with other alginic acid esters. In the [illegible]
dimethylsulfoxide it is possible to use, if desired, [illegible] other solvent
capable of dissolving [illegible].

[illegible] . . . similar compounds, that is, compounds [illegible] with the
in suspension or solution of the solvent used to [illegible] the
alginic acid in such a way as to form a gas, such as [illegible]
dioxide, which has the effect of producing. . .

What is claimed is:

1. A total, substantially water-insoluble ester of alginic acid in which the esterifying alcohol is selected [illegible] from the group consisting of n-nonyl alcohol, dodecyl alcohol, [illegible], n-butyl[illegible].

2. An alginic acid ester according to claim 1, wherein the esterifying alcohol is selected from the group consisting of prednisolone, dexamethasone, cortisone, . . .

. . . method of ophthalmologic treatment which comprises administering, to the corneal surface, an ophthalmologically effective amount of a total ester of alginic acid in which the esterifying alcohol moiety is derived from an aliphatic alcohol with a maximum of [illegible] carbon atoms.

5. A process for the preparation of total esters of alginic acid which comprises the following steps: a) [illegible] a quaternary ammonium salt of alginic acid in an organic solvent, b) treating the solubilized salt of alginic acid from [illegible] with an esterification agent which is gradually added to the dissolved quaternary ammonium salt, and c). . .

6. A process according to claim 5, wherein said quaternary ammonium salt is a lower tetraalkyl ammonium salt of alginic acid.

7. A process according to claim 6, wherein said quaternary ammonium salt is tetrabutylammonium salt of alginic acid.

. . . process according to claim 5, which, in step c), comprises adding an organic solvent to precipitate out said ester of alginic acid.

11. A process according to claim 5, which further comprises washing and drying said ester of alginic acid.

12. A process according to claim 5, wherein said quaternary ammonium salt of alginic acid is prepared by passing an alkali metal salt of alginic acid through a quaternary ammonium [illegible] ion exchange resin; and recovering said quaternary ammonium salt of alginic acid.

. . . radical that an alcohol AOH comprises by the removal of the H group is an optionally substituted aliphatic [illegible] with a maximum of 14 carbon atoms; or B) an optionally substituted aliphatic alcohol with only the benzene ring and in which the aliphatic chain has a maximum of 4 carbon atoms; or C) an optionally substituted cycloaliphatic alcohol which is mono- or polycyclic, has a maximum of 14 carbon atoms, and is an optionally substituted aliphatic

[illegible] **aliphatic**, [illegible] **aliphatic**-[illegible] [illegible] **aliphatic** [illegible]

L[illegible] ANSWER [illegible] OF 45 USEFULFULL

II [illegible] polysaccharide derivatives with [illegible] activity

II [illegible]

[illegible] . . . Am. J. of Clinical Nutrition, 30, April [illegible], p [illegible]. In these compounds the positive charges in the [illegible] polysaccharide **macromolecules** are obtained by simple pH [illegible] amino groups, so that under the pH conditions of the [illegible] (pH.gtr.pKa-[illegible]). . . .

[illegible] . . . solvent which dissolves or swells the [illegible] polysaccharide. The preferred solvents, both for the pretreatment and the subsequent reactions, are **aliphatic** alcohols, in particular those having 1-4 carbon atoms; polyalkylene [illegible] with 2-4 carbon atoms, in particular ethylene and diethylene glycol; glycerin; **aliphatic** ketones, in particular acetone; linear and cyclic ethers, in particular dioxane; and **aliphatic** and [illegible] hydrocarbons with 6-15 carbon atoms.

[illegible] . . . for introducing side chains into the [illegible] molecule of the pretreated polysaccharide are effected by using [illegible] the **aliphatic** and/or aromatic amines or the amides [illegible] having the structure which it is intended to introduce into the polysaccharide molecules. . . .

CLM What is claimed is:

2. A process for preparing a cationized derivative of a natural **polysaccharide** of the formula: ##STR1## wherein m is a number between 50 and 5,000; A is N.sup.(+) RR.sub.1 [illegible]; n is between [illegible] and 2; R, R.sup.1 and R.sup.2 are the same or different and are hydrogen, a linear or branched **alkyl** with 1 [illegible] atoms, phenyl, [illegible] R.sup.3 -[illegible] alkylphenyl [illegible]; R.sup.3 is --CH.sub.2 --CH [illegible] --CH.sub.2-[illegible] --N.sup.(+) R [illegible] R.sup.2; . . . that each monomer unit has a cationic charge [illegible] greater than or equal to two comprising (a) pretreating the natural **polysaccharide**, if insoluble in water, with an acid **solution** or, if soluble in water, with an alkaline [illegible]; (b) dissolving the pretreated **polysaccharide** of step (a) in water or in an organic solvent and reprecipitating the **polysaccharide** in amorphous form from the **solution**; (c) suspending or dissolving in an organic solvent the precipitated **polysaccharide** of step (b) and reacting same with **aliphatic** and/or aromatic amines and/or amino acids having the structure intended to be introduced into the **polysaccharide** molecules as side chains; and (d) cationizing the **polysaccharide** side chains by reacting same with quaternary **ammonium** salts having equal or different nitrogen substituents and containing a reactive epoxide or halohydrin group.

. . . reactions involved in introducing the side chains into the molecule and their cationization is chosen from the group consisting of **aliphatic** alcohols with 1-4 carbon atoms; polyalkylene [illegible] carbon atoms; **aliphatic** ketones; and linear and [illegible] ethers.

[illegible]

L6* ANSWER 1 OF 35 USPATFULL
AN 1999:112438 USPATFULL
TI Aqueous viscoelastic surfactant solutions for [illegible] with cleaning
IN Balzer, Dieter, Haltern, Germany, Federal Republic [illegible]
PA Hüls Aktiengesellschaft, Marl, Germany, Federal Rep. [illegible] of [illegible]
PI US 5908611 19990601
AI US 1996-760556 19961204 (8)
RLI Continuation-in-part of Ser. No. US 1995-481754, filed on 7 Jun 1995, now abandoned
PRAI DE 1994-4419866 19940611
DT Utility
EXNAM Primary Examiner: Gupta, Yogendra; Assistant Examiner: Verdee, John E.
LREP Oblon, Spivak, McClelland, Maier & Neustadt, P.C.
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 711
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Aqueous, viscoelastic surfactant solutions for the cleaning of hair and skin which contain:

(A) from 4 to 25% by weight of an anionic surfactant;

(B) from 0 to 10% by weight of a betainic surfactant;

(C) from 0 to 20% by weight of a nonionic surfactant;

(D) from 0 to 6% by weight of an electrolyte;

(E) from 0 to 5% by weight of a water-soluble polymer; and

(F) from 0 to 5% by weight of a further constituent, in which the sum of the amounts of (A), (B), and (C) is at least 10% by weight and the sum of the amounts of (C), (D), and (E) is between 2 and 30% by weight, in each case based on the total weight of the aqueous solution, and having a shear modulus, G.sub.0, between 50 and 500 Pa at temperatures between 20 and 40.degree. C. and a pH of from 4 to 8, and in which the conditions for the identity of the storage modulus, G', and the loss modulus, G", are in the angular frequency range from 0.1 and 60 rad.multidot.s.sup.-1, exhibit optimum flow behavior for the intended applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d kwic

L7 ANSWER 1 OF 45 USPATFULL
TI Preparation of lactams from **aliphatic** .alpha.,.omega.-dinitriles
AB A process for the preparation of five-membered to seven-membered ring lactams from **aliphatic** .alpha.,.omega.-dinitriles is developed. In the process an **aliphatic** .alpha.,.omega.-dinitrile is first converted to an ammonium salt of the .omega.-nitrilecarboxylic acid in aqueous solution using a catalyst having an **aliphatic** nitrilase (EC 3.5.5.7) activity, the combination of nitrile hydratase (EC 4.2.1.84) and amidase (EC 3.5.1.4) activities. The ammonium salt is then converted by hydrogenation in aqueous solution, without isolation of the intermediate .omega.-nitrilecarboxylic acid or .omega.-aminocarboxylic acid, to the **aliphatic** .alpha.,.omega.-dinitrile is also enzymatically substituted at the .alpha.-carbon atom, the nitrile group precedes the .omega.-nitrilecarboxylic acid ammonium salt during the hydrolysis. . . .
SUMM This invention relates to a process for the preparation of five-membered

... six-membered ring lactams from **aliphatic** .alpha.,.omega.-dinitriles by a combination of ... and chemical techniques. More particularly, an **aliphatic** .alpha.,.omega.-dinitrile is first converted ... to the ammonium salt of an .omega.-nitrilecarboxylic acid in aqueous solution ... a catalyst having an **aliphatic** nitrilase (EC 3.5.5.7 activity), ... combination of nitrile hydratase (EC 4.2.1.84) and amidase (EC 3.5.1.4) activities. The ammonium salt ... the corresponding lactam by hydrogenation in aqueous solution, without isolation of the intermediate .omega.-nitrilecarboxylic acid or .omega.-aminocarboxylic acid. When the **aliphatic** .alpha.,.omega.-dinitrile is also unsymmetrically substituted at the .alpha.-carbon atom, the nitrile group ... the .omega.-nitrilecarboxylic acid ammonium salt ... during hydrolysis. ...

SUMM ... An additional advantage of the enzyme-catalyzed hydrolysis of nitriles over chemical hydrolysis is that, for the hydrolysis of a variety of **aliphatic** or aromatic dinitriles, the enzyme-catalyzed reaction can be highly regioselective, where only one of the two nitrile groups is hydrolyzed. ...

SUMM ... The corresponding carboxylic acid ammonium salts have been known for many years, but it is only recently that the use of **aliphatic** nitrilases have been reported. Kobayashi et al. (Eur. J. Biochem., 182, Vol. 46, 5847-5850; J. Bacteriology, (1990), Vol. 172, 4847-4848) have described an **aliphatic** nitrilase isolated from Rhodococcus rhodochrous K22 which catalyzed the hydrolysis of **aliphatic** nitriles to the corresponding carboxylic acid and ... salts; several **aliphatic** .alpha.,.omega.-dinitriles were also hydrolyzed, and glutaronitrile was converted to 4-cyanobutyric acid ammonium salt with 100% molar conversion using resting cells as catalyst. A nitrilase from Comamonas testosteroni has been isolated which can convert a range of **aliphatic** .alpha.,.omega.-dinitriles to either the corresponding .omega.-nitrilecarboxylic acid ammonium salt or the ... carboxylic acid diammonium salt (Canadian patent application CA 2,1 ...,614). ...

SUMM ... Knowles (Biotechnology Lett., (1994), Vol. 16, 41-46) have reported the use of suspensions of Rhodococcus sp. NCIMB 11216 having an **aliphatic** nitrilase activity for the hydrolysis of several 2-methylalkylnitriles. Complete conversion of (+/-)-2-methylbutyronitrile to 2-methylbutyric acid ammonium salt was obtained, while ...

SUMM A combination of two enzymes, nitrile hydratase (EC ...) and amidase, can be also be used to convert **aliphatic** nitriles to the corresponding carboxylic acid ammonium salts in aqueous solution. Here the **aliphatic** nitrile is initially converted to the ... by the nitrile hydratase and then the amide is subsequently converted by the ...

SUMM ... the intermediate formation of 5-cyanovaleramide using Brevibacterium sp. R312 (nitrile hydratase and amidase activity). A. Kerridge et al. (Bioorg. **Medicinal** Chem., (1994), Vol. 2, 447-455) report the use of Brevibacterium sp. R312 (nitrile hydratase and amidase activity) to hydrolyze prochiral ... ammonium salts. European Patent 178,106 B1 (Mar. 31, 1993) discloses the selective transformation of one of the cyano groups of an **aliphatic** dinitrile to the corresponding carboxylic acid, amide, ester or thioester using the mononitrilase activity (defined) ... other nitrilase ... a. ...

SUMM No prior art has been found which describes the ... ammonium salts of **aliphatic** .omega.-nitrilecarboxylic ... acids in aqueous solution to directly produce the corresponding lactams. In closely related art, U.S. Pat. No. 4,839,469 describes ...

SUMM ... to various acid ammonium salts. However, no prior art has been found which describes the cyclization of ammonium salts of **aliphatic** .omega.-aminocarboxylic acids under the ... cyclization reaction conditions of the present invention (i.e., in an aqueous solution containing an excess of added ammonium hydroxide to produce the corresponding lactams. In closely related art, the cyclization of **aliphatic** .omega.-aminocarboxylic acids (but not the ammonium salts) to the corresponding lactams under a variety of reaction conditions has been reported.. ... steam at ... 250-degree. C. to 470.degree. C. The synthesis of five-, six- and ... membered ring lactams by cyclodehydration of **aliphatic** .omega.-... acids in ...

a alpha.-silica gel in toluene, and with cation . . . n val . f the water gr . ed during the reaction, has . . .

JP'' No prior art had been found which describes the . . . ation of salts . f **aliphatic** .omega.-nitrilecarb . . . in an aqueous solution containing methylamine to either . . . the corresp. ding N-methyl lactams. In fact, only one . . . , 5-dim-thyl-2-pyrrolidinone was . . .

JP'' . . . mixtures of products which are not read . . . ed. A significant advance would be a process f . the . . . of **aliphatic** .alpha.,.omega.-dinitrile to the corresp . . . lactam or N-methyllactam in aqueous solution, in high y . . . with high regioselectivity, with little byproduct or . . .

JP'' A process for the preparation of five-membered . . lactams or six-membered ring lactams from **aliphatic** .alpha.,. . . -dinitriles, having the steps:

JP'' (a) contacting an **aliphatic** .alpha.,.omega.-dini . . . in aqueous reaction mixture with an enzyme catalyst . . . ed by either

JP'' (1) an **aliphatic** nitrilase activity, or

JP'' (2) a combination of nitrile hydratase and amida . . . activities, whereby the **aliphatic** .alpha.,.omega.-dinitrile is convert . . . to .omega.-nitrilecarboxylic acid ammonium salt.

JP'' . . . whole cell catalyst to select for a pref . . . nitrilase activity or nitrile hydratase activity capable of . . . ting the conversion of **aliphatic** .alpha.,.omega.-dinitrile . . . to the corresponding .omega.-cyanocarboxylic acid ammon . . . salt. The whole cell catalyst to be treated is characterized by two type . . .

JP'' . . . purified enzyme(s), or purified enzyme . . . The enzyme catalysts can be immobilized on a support. Micr . . . which are characterized by an **aliphatic** nitrilase activity . . . s fit in the process are Acidovorax facilis 72-PF-15 (AT . . . , Acidovorax facilis 72-PF-17 (ATCC 55745), and Acidovorax . . .

JP'' A process to prepare lactams from **aliphatic** .alpha.,.omega.-dinitriles in high yields has been developed which utilizes a combination of enzymatic and chemical . . . ons. In cases where the . . .

JP'' A. Conversion of an **aliphatic** .alpha.,.omega.-di . . . le to the corresponding .omega.-nitrilecarboxylic acid am . . . salt in high yield and with high regioselectivity.

JP'' The first step of this process is the conversion . . . **aliphatic** .alpha.,.omega.-dinitrile to the corresponding . . . -nitrilecarboxylic acid ammonium salt, using an enzyme catalyst. The . . . catalyst has either a nitrilase activity,. . . .omega.-nit . . . xylic acid ammonium salt (eqn. 1), or a combination of two . . . ctivities, nitrile hydratase (NHase) and amidase, where the **aliphatic** .alpha.,.omega.-dinitrile is initially converted to the .omega.-nitrilealkylamide by the nitrile hydrata . . . , and then the .omega.-nitrilealkylamide is subsequently conver . . . e. . . .

JP'' A novel microbe Acidovorax facilis 72W (ATCC 55 . . .) has been isolated from soil samples which had been exposed to **aliphatic** n . . . trites or dinitriles, and which could utilize 2-ethyls . . . nitrile as a nitrogen source. When used as a microbial whole- . . . talyst for . . .

JP'' There are currently no non-enzymatic methods for . . . e selective hydrolysis of only one nitrile group of an **aliphatic** . . . trile to either an amide group or a carboxylic acid gr . . . p. Complete conversion of the dinitrile. If such a . . .

JP'' . . . 72-PF-17 (ATCC 55745), do not require . . . treatment of the cells prior to use as catalyst for the hydrolysis . . . n.

aliphatic .alpha.,.omega.-dinitrile to the corresp . . . ammonium salt of a .omega.-nitrilecarboxylic a . . . parison of the yields of 4-CBA and 2-methylglutaric acid. . . .

JP'' . . . heat-treated Acidovorax facilis 72W (AT . . . 4 . . . is used as a catalyst for the hydrolysis of aqueous solutions . . . substituted **aliphatic** .alpha.,.omega.-dinitriles succinonitri . . . , 1.25 M 2-methylglutaronitrile (2MGN, 1.5 M , the corresp . . . .-nitrilecarboxylic acid ammonium salts 3-cyanopr . . . id (3-CPAA . . .

JP'' More than 50 different microbial cultures isolat . . . m soil samples which had been exposed to **aliphatic** nitrites or . . . , and which could grow on various nitrites or amid . . . as the . . . were screened for high selectivity. . . .

... ... high yields by the direct hydrolysis of the .omega.-nitrilecarboxylic acid and the salt prepared by the enzyme-catalyzed hydrolysis of **aliphatic** .alpha.,.omega.-dinitriles in aqueous solution. ... the isolation of the .omega.-nitrilecarboxylic ... ... from the product ...

... ... product mixture of ... ammonium salt of a .omega.-nitrilecarboxylic acid from an **aliphatic** .alpha.,.omega.-dinitrile by using an enzyme ... ... the enzyme catalyst and reaction of the result ... solution ... as ammonium hydroxide ... the presence of ... hydrogenation catalyst was expected to produce ... solution containing an **aliphatic** .omega.-aminocarboxylic ... ammonium salt ... 4 : **ST63** The use of an excess of ... during the hydrogenation of a nitrile. ...

... In addition to producing lactams from **aliphatic** .alpha.,.omega.-dinitriles, N-methyl-lactams are ... by the substitution of methylamine for ammonia in the ... ... of aqueous solutions of the ammonium. ...

... Two microorganisms have been isolated for use as ... catalyst for the conversion of **aliphatic** .alpha.,.omega.-... to the corresponding .omega.-nitrilecarboxylic acid: ... ... ATCC 55746) and Comamonas testosteroni B-... (ATCC 55744).

... **Aliphatic** .alpha.,.omega.-Dinitrile Hydrolysis ...

... An aqueous **solution** containing the **ammonium** salt of an **aliphatic** .omega.-nitrilecarboxylic acid is prepared by mixing the corresponding **aliphatic** .alpha.,.omega.-dinitrile with an aqueous suspension of the appropriate enzyme catalyst (as identified in part A above). While microbial cells may be used as catalyst without any pretreatment, they may be immobilized in a polymer matrix (e.g., **alginate** or polyacrylamide gel (PAG) particles) or on an inert solid support (e.g., celite) to facilitate recovery and reuse ...

... Some of the **aliphatic** .alpha.,.omega.-dinitriles ... starting material in the present invention are ... immediately water soluble. Their solubility is also dependent on ...

... The final concentration of **aliphatic** .omega.-nitrilecarboxylic acid ammonium salt in the product mixture at ... conversion of the .alpha.,.omega.-dinitrile may range from ... the solubility limit of the **aliphatic** .omega.-nitrilecarboxylic ... salt. Typically, the concentration of the .omega.-nitrilecarboxylic acid ammonium salt ranged from 0.1% M to 2.0 M. ...

... Catalytic hydrogenation is a preferred method for ... an **aliphatic** amine from an **aliphatic** nitrile. In the present invention, the .omega.-aminocarboxylic acid produced during the hydrogenation cyclizes to the corresponding five- ... or six-membered ring. ... .omega.-nitrilecarboxy... prepared by centrifugation and filtration of the aqueous ... mixture produced by the enzymatic hydrolysis of the corresponding **aliphatic** .alpha.,.omega.-dinitrile) is first mixed with ... ammonium hydroxide and water to produce a solution which ... from one to four. ...

... In the following examples, which serve to further illustrate the invention and not to limit it, the % recovery of **aliphatic** .alpha.,.omega.-dinitriles and the % yields of the ... hydrolysis products formed during the microbial hydrolysis reaction ... based on the initial. ...

... ...

L4- ANSWER 1 OF 45 USPATFULL
AN ... 2008:... USPATFULL
TI ... Cosmetic particulate gel delivery system and method ... preparing complex gel particles
IN ... Dubief, Daniel, Jouy-en-Josas, France
... Ding, Li, Jouy-en-Josas, France
PA ... Pierre Fabre Dermo-Cosmetique [non-U.S. corporation]
PI ... US 2008...
AI ... US 2007-...
... Utility
DT ... Primary Examiner: Dawson, Rob...
LREP ... Randall and Mortofsky
CLMN ... Number of Claims: 14
ECL ... Exemplary Claim: 1
DRWN ... 5 Drawing Figure(s); 2 Drawing Page(s)
... NOT ...
NOT INDEXING IS AVAILABLE FOR THIS PATENT.
AB ... A protective cosmetic particulate gel delivery ... for topically applied active agent employs an agar gel and a ... polymer to retain the active agent in the gel. The particles ... average particle diameter of at least 0.05 mm while the ... polymer has a molecular weight of at least 50,000 daltons and ... retention groups to bind the active agent. The restraining polymer ... be selected from the group consisting of polyquaternium 24, lauryldimonium hydroxyethylcellulose, cocodimonium hydroxyethyl ..., steardimonium hydroxyethylcellulose, quaternary ammonium ... water-soluble polysaccharides, alkyl quaternary celluloses ... polypeptides having ... provided with retention groups to retain the ... The gel particles of the invention are manually ... skin ... increase the surface area of the gel particle ... expose the restraining polymer to the skin or other body ... release of the active agent. The delivery system can be incorporated ... multiphase cosmetic formulations such as gels, creams and ...

NOT INDEXING IS AVAILABLE FOR THIS PATENT.

... kwic 2

L4- ANSWER 2 OF 45 USPATFULL
AB ... A process for the preparation of five-membered ... lactams from **aliphatic** .alpha.,.omega.-dinitriles ... developed. In the process an **aliphatic** .alpha.,.omega.-dinitrile is first converted to an ammonium salt ... .omega.-nitrilecarboxylic acid in aqueous solution ... a catalyst having an **aliphatic** nitrilase (EC 3.5.5.7) activity, ... combination of nitrile hydratase (EC 4.2.1.84) ... EC 3.5.1.4) activities. The ammonium salt ... the current ... lactam by hydrogenation in aqueous solution, without isolation ... the intermediate .omega.-nitrilecarboxylic acid or .omega.-amino ... acid. When the **aliphatic** .alpha.,.omega.-dinitrile is also unsymmetrically substituted at the .alpha.-carbon atom, the nitrile ... induces the .omega.-nitrilecarboxylic acid ammonium salt ... ammonium hydrolysis. ...
... The invention relates to a process for the preparation of five-membered to six-membered ring lactams from **aliphatic** .alpha.,.omega.-dinitriles by a combination of ... and chemical technologies. More particularly, an **aliphatic** .alpha.,.omega.-dinitrile is first converted to ... an .omega.-nitrilecarboxylic acid in aqueous solution ... a catalyst having an **aliphatic** nitrilase (EC 3.5.5.7) activity, ... combination of nitrile hydratase (EC 4.2.1.84) ... EC 3.5.1.4) activities. The ammonium salt ... the current ... lactam by hydrogenation in aqueous solution, without isolation ... the intermediate

...omega.-nitrile-carboxylic acid ... omega.-amin... ... acid. When the **aliphatic** ...alpha.,...omega.-dinitrile is also employed ... substituted at the ...alpha.-carbon atom, the nitrile ... omega.-nitrile-carboxylic acid and diamide salt ... hydrolysis.

... An additional advantage of the enzyme-catalyzed hydrolysis of nitriles over chemical hydrolysis is that, in the hydrolysis of a variety of **aliphatic** and aromatic dinitriles, the enzyme-catalyzed reaction can be highly regioselective, wherein only one of the two nitrile groups is hydrolyzed. ...

... The corresponding carboxylic acid ammonium ... have been known for many years, but it is only recently that the ... **aliphatic** nitrilases have been reported. Kobayashi et al. ... Biol. Chem., 54, 2685-2686; J. Bacteriology, 1990, ... have described an **aliphatic** nitrilase isolated from ... Rhodococcus R11 which catalyzes the hydrolysis of **aliphatic** nitriles to the corresponding carboxylic acid and ... ; several **aliphatic** .alpha.,.omega.-dinitriles were also hydrolyzed, and glutaronitrile was converted to 4-cyanobutyric acid ... salt with ... % conversion using resting cells as the ... nitrilase from ... A nitrilase responsible has been isolated which ... on it a name of **aliphatic** .alpha.,.omega.-dinitriles to either the ... omega.-nitrile-carboxylic acid ammonium salt ... carboxylic acid diammonium salt (Canadian patent application ...).

... Knowles (Biotechnology Lett., (1994), ... 41-46) have reported the use of suspensions of Rhodococcus ... NCIMB 11216 having an **aliphatic** nitrilase activity for the ... of several 2-methylalkylnitriles. Complete conversion ... ,...-...-methylbutyronitrile to 2-methylbutyric acid ... salt was obtained, while. ...

A combination of two enzymes, nitrile hydratase ... amidase, can ... also be used to convert **aliphatic** nitriles to ... corresponding carboxylic acid ammonium salts in ... solution. Here the **aliphatic** nitrile is initially converted to ... by the nitrile hydratase and then the amide is subsequently converted by the. ...

... the intermediate formation of 5-cyano... acid using Brevibacterium sp. R312 (nitrile hydratase and amidase activity). A. Petitpas et al. (Biotg. **Medicinal** Chem., (1994), ... 447-455, report the use of Brevibacterium sp. R31... the hydratase and amidase activity) to hydrolyze prochiral. ... for. European Patent 179,106 B1 (Mar. 31, 1993, discloses selective transformation of one of the cyano groups of an **aliphatic** dinitrile ... corresponding carboxylic acid, amide, ester or ... using the mononitrilase activity (defined as either nitrile ...

No prior art has been found which describes the ... of ammonium salts of **aliphatic** .omega.-nitrilecarboxylic acids in aqueous solution to directly produce the corresponding lactams. In closely related art, U.S. Pat. No. 4,329,499 des... to various acid ammonium salts. However, ... art has been found which describes the cyclization of ammonium salts of **aliphatic** .omega.-aminocarboxylic acids under the ... reaction conditions of the present invention (i.e., in aqueous solution containing an excess of added ammonium ... to produce the corresponding lactams. In closely related art, ... cyclization of **aliphatic** .omega.-aminocarboxylic acids (not ... salts) to the corresponding lactams under a variety of reaction conditions has been reported.. ... steam at ... degree. C. to 4... degree. C. The synthesis of five-, six- and ... -membered ring lactams by cyclodehydration of **aliphatic** .omega.-... acids in alumina or silica gel in toluene, and with azeotropic removal of the water produced during the reaction, has. ...

No prior art has been found which describes the ... of ammonium salts of **aliphatic** .omega.-nitrilecarboxylic acids in aqueous solution containing methylamine to ... the corresponding N-methyl lactams. In closely related ..., 1,5-dimethyl-2-pyrrolidinone was. ...

... mixtures of products which are not easily ... A significant advance would be a process for the ... of an **aliphatic** .alpha.,.omega.-dinitrile to the ... lactam

... 3-methylglutaronitrile to 3-methyl... with high ... 3-methylglutaric acid selectivity, with little ... .

... A process for the preparation of five-membered ... from the corresponding **aliphatic** ... dinitriles, having the steps:

... a) providing an **aliphatic** ...omega.-dinitrile ... an aqueous reaction mixture with an enzyme catalyst ... characterized by either ...

... 1) an **aliphatic** nitrilase activity, or ...

... 2) a combination of nitrile hydratase and amidase ... claims, whereby the **aliphatic** ...omega.-dinitrile is converted ... omega.-nitrilecarboxylic acid ammonium salt;

... b) ... while cell catalyst to select for a ... nitrilase activity or nitrile hydratase activity capable ... the conversion of **aliphatic** ...omega.-dinitrile ... corresponding ...omega.-cyanocarboxylic acid and ... The cell catalyst to be treated to characterized by two ...

... c) ... purified enzymes, or purified enzyme ... enzyme catalysts can be immobilized on a support. Micro... which are characterized by an **aliphatic** nitrilase activity, ... in the process are Acidovorax facilis 72-PF-15 (ATCC ...), Acidovorax facilis 72-PF-17 (ATCC 55745), and Acidovorax ...

A process to prepare lactams from **aliphatic** ...alpha.,.omega.-dinitriles in high yields has been developed which utilizes a combination of enzymatic and chemical ... In cases where the ...

A. Conversion of an **aliphatic** ...alpha.,.omega.-... the corresponding ...omega.-nitrilecarboxylic acid and ... in high yield and with high regioselectivity.

The first step of this process is the conversion ... **aliphatic** ...alpha.,.omega.-dinitrile to the corresponding ...omega.-nitrilecarboxylic acid ammonium salt, using an enzyme catalyst. The ... catalyst has either a nitrilase activity, ...omega.-nitrilecarboxylic acid ammonium salt (eqn. 1), or a combination of two ... activities, nitrile hydratase (NHase) and amidase, where the **aliphatic** ...alpha.,.omega.-dinitrile is initially converted ... ...omega.-nitrilealkylamide by the nitrile hydratase, ... then the ...omega.-nitrilealkylamide is subsequently converted ...

A novel microbe Acidovorax facilis 72W (ATCC 55..., ... was isolated from soil samples which had been exposed to **aliphatic** ... dinitriles, and which could utilize 3-methylglutaronitrile as a nitrogen source. When used as a microbial whole-cell catalyst this ...

There are currently no non-enzymatic methods for the selective hydrolysis of only one nitrile group of an **aliphatic** ... nitrile to either an amide group or a carboxylic acid group ... complete conversion of the dinitrile. If such a ...

... Acidovorax facilis 72-PF-15 (ATCC 55745), do not require ... treatment of the cells prior to use as catalyst for the hydrolysis of ... **aliphatic** ...alpha.,.omega.-dinitrile to the corresponding ... ammonium salt of a ...omega.-nitrilecarboxylic acid. ... comparison of the yields of 4-CPA and 3-methylglutaric acid. ...

... heat-treated Acidovorax facilis 72W (ATCC ...) is used as a catalyst for the hydrolysis of aqueous solutions of the unsubstituted **aliphatic** ...alpha.,.omega.-dinitriles succinonitrile (SCN, 1.25 M) or glutaronitrile (GLN, 1.5 M), the corresponding ...omega.-nitrilecarboxylic acid ammonium salts 3-cyanopropionic acid (3-CPRA) ...

More than 30 different microbial cultures isolated ... soil samples which had been exposed to **aliphatic** nitriles or ..., and which could grow on various nitriles or amides as the sole nitrogen source, were screened for high selectivity. ...

... high yields by the direct hydrogenation of the ...omega.-nitrilecarboxylic acid ammonium salt products are produced by the enzyme-catalyzed hydrolysis of **aliphatic** ...alpha.,.omega.-dinitriles in aqueous solution. The ... does not require the isolation of the ...omega.-nitrilecarboxylic acid ammonium salt from the product. ...

After producing an aqueous product mixture containing ... ammonium salt of a ...omega.-nitrilecarboxylic acid from an **aliphatic** ...alpha.,.omega.-dinitrile by using an enzyme catalyst, ... of the enzyme catalyst and recovery of the ...

[illegible] hydrolysis [illegible] in the presence [illegible] hydrolysis [illegible] was expected [illegible] aliphatic .omega.-aminocarboxylic [illegible] salt [illegible]. 4: **STR** The use [illegible] hydrogenation [illegible] nitrile. [illegible]

In addition to [illegible] lactams from aliphatic .alpha.,.omega.-dinitriles, N-methyllactams [illegible] by the substitution [illegible] methylamine [illegible] in the [illegible] to [illegible] solid [illegible] of the amino [illegible].

The [illegible] disclosed have been [illegible] for the [illegible] catalyst for the [illegible] of aliphatic .alpha.,.omega.-[illegible] to the corresponding .omega.-cyanocarboxylic acids [illegible] Rhodococcus facilis [illegible] ATCC 55744 and Comamonas testosteroni [illegible] ATCC 55746.

Aliphatic .alpha.,.omega.-Dinitrile Hydrolysis [illegible]

An aqueous **solution** containing the **ammonium** salt [illegible] an **aliphatic** .omega.-nitrilecarboxylic acid is prepared by mixing the corresponding **aliphatic** .alpha.,.omega.-[illegible] with an aqueous suspension of the appropriate microbial catalyst as identified in part A above. While microbial cells used as catalyst without any pretreatment. Alternatively, [illegible] the microorganisms in a polymer matrix [illegible], **alginate** [illegible] polyacrylamide gel. PAG particles [illegible] in an inert solid support [illegible], pellets to facilitate recovery and reuse [illegible].

Some of the **aliphatic** .alpha.,.omega.-dinitrile starting material in the present invention are [illegible] water soluble. Their solubility is also dependent on [illegible].

The final concentration of **aliphatic** .omega.-nitrilecarboxylic acid ammonium salt in the product mixture at complete [illegible] of the .alpha.,.omega.-dinitrile may range from [illegible] M [illegible], solubility limit of the **aliphatic** .omega.-nitrilecarboxylic acid [illegible] salt. Typically, the concentration of the .omega.-nitrilecarboxylic acid ammonium salt ranged from [illegible] M to [illegible] M. [illegible]

Catalytic hydrogenation is a preferred method [illegible] an **aliphatic** amine from an **aliphatic** nitrile. In the present invention, the .omega.-aminocarboxylic acid produced during the hydrogenation cyclizes to the corresponding five- [illegible] six-membered ring. [illegible] .omega.-nitrilecarboxylic [illegible] prepared by centrifugation and filtration of the aqueous product mixture produced by the enzymatic hydrolysis of the corresponding **aliphatic** .alpha.,.omega.-dinitrile) is first mixed with [illegible] ammonium hydroxide and water to produce a solution which [illegible] from the four. [illegible]

In the following examples, which serve to further illustrate the invention and not to limit it, the % recovery of **aliphatic** .alpha.,.omega.-dinitriles and the % yields of hydrolysis products formed during the microbial hydrolysis reaction [illegible] based on the initial. [illegible]

What is claimed is:

1. Isolated microorganisms characterized by an **aliphatic** nitrilase activity and selected from the group [illegible] of Acidovorax facilis 72W (ATCC 55746), Acidovorax facilis 72-I - [illegible] (ATCC 55747), Acidovorax. [illegible]

[illegible] L14 1

L14 ANSWER 1 OF 6 HCAPLUS [illegible] COPYRIGHT [illegible] ACS
AN [illegible] HCAPLUS
DN [illegible]
TI Alkyl polyglycoside [illegible] alkenes and alkanol as [illegible] them with improved whiteness
IN Bellenoot, Catherine; Arabian, Chantal; Lindau, Alain; Mollet, Nelly; Millie, Alain
PA Societe d'Exploitation de Brevets pour les Industries Chimiques, Fr.
SO [illegible] Mokal Tokkyo Koho, 6 pp.
CODEN: JPXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP [illegible]-84[illegible]	A2	[illegible].12.[illegible]	JP 1999-262[illegible]	[illegible].[illegible].17
	FR [illegible]-2[illegible].	A1	[illegible].[illegible].11	FR 1999-11611	[illegible].[illegible].17
	EP [illegible]-[illegible]	A2	[illegible].[illegible].11	EP 1999-4[illegible]	[illegible].[illegible].16

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, [illegible], NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRAI FR 1998-11611 1998.09.17
OS MARPAT 132:141697
AB The compns., useful as emulsifiers for cosmetic em[illegible], etc., comprise 5-6 * (A) alkyl polyglycoside mixts. cntg. (a) 40- [illegible]% of R1O(G1 k (R1 = C16-1[illegible] linear or branched **aliph** group; G1 = **saccharide** residue; k = 1-5[illegible] and R2O(G2)l (R2, G2, [illegible] have the same definition as R1, G1, and l, resp.) and 5-[illegible]% [illegible]. of R3O(G3)m (R3 = C20-**22** linear or branched **aliph**. group; G3 = **saccharide** residue; m = 1-5) and R4O(G4)n (R4, G4, [illegible] have the same definition as R3, G3, and m, resp.) and 40-55* [illegible] starting ROH (R = C14-**22** linear or branched aliph. group, preferably [illegible] R1-R4;). Also claimed are emulsions cntg. [illegible] phase, [illegible] oily phase, and the compns. as main emulsifiers. A typical mixt. cntg. ~5.5* C16 and 21* alks. and 14.5* C20 and C22 alks. was treated with glucose at alk./glucose mol ratio 6:1 in the presence of acid [illegible] degree. for 5 h to give alkyl polyglycoside mixt. The mixt. was used in emulsification of isohexyl isononanoate, sweet almond oil, and isopropyl alc. to give stable white emulsions.

AN [illegible]
TI [illegible]
IN [illegible]
PI [illegible]
IN Takeda, Mitsuji; Mukaiwa, Tsuneya; Takahata, Masahiko; [illegible]
PA [illegible], Japan
SO [illegible]
JOSEN: JPXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP [illegible]	A2	1997 316	JP 1996-[illegible]	[illegible] 6

PRAI [illegible]
AB The compns., with mild moisture retension and mild irritancy, comprise **aliph**. acid esters, multivalent alcs. or **saccharides** or salts or derivs. of RICO.OCHR1CO2pOH (RICO = C6-**22** acyl; R1 = Me, H; p = 1-3). Thus, a compn. was prepd. from a mixt. of coll. tall w-oil and coco-oil mixt. 3:1, 85% EtOH 10, glycerol 5, sugar 10, and EDTA 0.5% and balanced water.

L1 ANSWER 1 OF 1 WPIX COPYRIGHT 2004 DERWENT INFO LTD
AN 1988-[illegible] WPIX
DC [illegible]
IN [illegible]
PA [illegible]
PI [illegible]
ADT [illegible]
PRAI [illegible]
IC [illegible]
AB [illegible]

The detergents contain A:B (1:19-9:1) α-sulfo-fatty acid ester-type and β-D-glucoside-type anionic surfactants delivered from C10-22 aliph. acids and disaccharides at component ratio A/B = 1:5 to 5:1 and A + B = 5-15%. The surfactants are useful for dishwashing, laundry, and bathing. Thus, a surfactant composed of 5% fructose-2-hexadecanoate, fructose 6-dodecanoate, and α-sulfo-1-hexadecyl dimethyl ester was prepd. by treating 0.56 mol fructose 6-dodecanoate and 0.28 mol Me α-sulfopalmitate in dimeta.-picoline in the presence of 1% Na2CO3 stabilizer at 45 mm pressure with MeOH removal, removing the enzyme and 1/4 of the solvent and unreacted ester, and recrystg. the residue.

...

...

PA ... HYMARIS ... DERWENT ... A/S
AN ... HYMARIS
IN ...
TI ... for preparation of alkyl glycoside surfactant
IN ..., Michael W.; Morris, Patrick M., Jr.; Richman, Jr., E.
PA ... Co., USA
SO ... Int. Appl., ... pp.
CODEN: PIXXD2
DT ... Patent
LA ... English
FAN.CNT ...

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO ...	A1	...	WO ...	...
W: AU, BG, BR, CA, CZ, FI, HU, JP, KP, KR, LK, MG, MN, PL, RO, RU, SK, UA				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US ...	A	...	US ...	...
AU ...	A1	...	AU ...	...
EP ...	A1	...	EP ...	...
R: DE, ES, FR, GB, IT				
JP ...	T2	...	JP ...	...
PRAI US ...				
WO ...				

MARPAT ...

AB In the title process, a slurry of a hydrous saccharide source (e.g., xanthose monohydrate) in a first portion of an aliph. ... e.g. C7-22 alc. is added to a second portion of the alc. under ... at an elevated temp. and reduced pressure to form a mixt. with ... reduced water content, an acid catalyst is added, and the **aliph.** ... reacted with the **saccharide** source to form the glyc...

[illegible]

L[illegible] ANSWER [illegible] OF [illegible] HCAPLUS [illegible] ON STN
AN [illegible] HCAPLUS
DN [illegible]
TI **Monosaccharide** and **disaccharide** esters of **aliphatic** [illegible]-22 hydroxyalkyl acids
IN [illegible]
PA [illegible]
SO [illegible]
[illegible]
DT Patent
LA [illegible]
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	B	[illegible]	[illegible]	[illegible]
[illegible]	A1	[illegible]	[illegible]	[illegible]
PRAI [illegible]		1979.314		

AB A solvent-free compn. of the title products is prepd. by [illegible] mono- and disaccharides (e.g., sorbitol, sucrose) and fatty acid methyl esters (e.g., coconut oil, tallow, Et stearate [111-61-5], or Me [illegible] [111-11-5]) in presence of the transesterification catalyst K2CO3 [illegible] emulsifiers [illegible] ethylated mixts. of diglycerides of fatty acids, fatty acid esters of mono- or disaccharides at 120-150.degree.. The [illegible] products can be used directly or after bleaching (with 1% H2O2 [illegible] wt./wt.) as detergents, emulsifiers, and foaming agents in cosmetics as emulsifiers in food industry. E.g., a mixt. of 75 g coconut oil, [illegible] g emulsifiers was heated to 125.degree., 34 g sucrose and 5 g K2CO3 were added and after 1-2 h mixing K2CO3 was removed by decantation. The [illegible] product contained approx.6.5% sucrose esters.

[illegible]

AN [illegible] ACCESSION NUMBER [illegible]
AU [illegible]
TI [illegible]
IN [illegible]
PA [illegible]
SO [illegible]
DT [illegible]
LA [illegible]
PAT. NO.

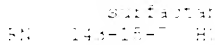
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP [illegible]	A1	[illegible]	EP [illegible]	[illegible]
	WO [illegible]	A	[illegible]	WO [illegible]	[illegible]
	CA [illegible]	A1	[illegible]	CA [illegible]	[illegible]
	US [illegible]	A	[illegible]	US [illegible]	[illegible]

PRAI IT [illegible] [illegible]

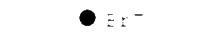
AB **Polysaccharide** particles are esterified with polyunsat. **aliph.** acids which are prostaglandin precursors in vivo. The [illegible] can be administered orally, parenterally, or topically for [illegible] or inhibition of ambition. For example, the gamma.-linolenic acid (I) was treated with triethylamine in the presence of N,N-dimethylhexylaminopyridine to give the gamma.-linolenic acid imidazolide (II). Dextran (III; 4-6% of hydroxyls esterified with the above compd.) to give a polymer (IV; n = ca. 22.5, 31-37% of gamma.-linolenate groups.

[illegible]

L[illegible] ANSWER 1 OF [illegible] HCAPLUS [illegible]
AN [illegible]
[illegible]
TI [illegible] **alginate** [illegible]
[illegible]
AU [illegible] **Pelletier, S.**; **Hubert, P.**; **Dellacherie, E.**
CS [illegible] Institute of Interfacial Phenomena Lab [illegible], [illegible] RAN, Moscow, [illegible], Russia
SO [illegible] Colloids Interfaces Sci. [illegible], [illegible], 81-[illegible]
[illegible]
PB Academic Press
[illegible]
LA English
AB [illegible] comparative study of the interfacial properties [illegible] anionic **polysaccharide**, sodium **alginate** [illegible], and its hydrophobically modified deriv. [illegible], in which some of the mannuronic acid units were substituted by N-decyl chains [illegible] mol% of saccharide units, was carried out in the absence of and in the presence of an oppositely charged surfactant, N-decyltrimethylammonium bromide (DTAB). The drastically different behaviors which were found are interpreted in terms of the arrangement and mobility of the hydrophobic long alkyl chains, depending on the nature of their fixation, covalent or ionic, on the **polysaccharide** backbone. [illegible] Academic Press.
IT **143-15-7D**, 1-Bromododecane, **alginate** derivs.
1119-94-4, Didecyldimethylammonium bromide
RL: MOA (Modifier or additive use); USES (Uses)
(hydrophobically assocg. **alginate** derivs. surface activity properties of their mixed aq. solns. with oppositely charged surfactants)
RN 143-15-7 HCAPLUS
CN Dodecane, 1-bromo- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1119-94-4 HCAPLUS
CN 1-Decanaminium, N,N,N-trimethyl-, bromide (9CI) (CA INDEX NAME)



IT **9005-38-3**, Sodium **alginate** **9005-38-3D**, Sodium **alginate**, didecyl derivs.
RL: PRP (Properties)
(hydrophobically assocg. **alginate** derivs. surface activity properties of their mixed aq. solns. with oppositely charged surfactants)
RN [illegible] HCAPLUS
CN Alginic acid, sodium salt (6CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN [illegible] HCAPLUS
CN Alginic acid, sodium salt (6CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RE.CNT [illegible]
RE
[illegible] HCAPLUS

L... ... ...

L... ANSWER ... OF ... HCAPLUS ... COPYRIGHT ... ...
AN ... HCAPLUS
TI ... **wound** dressings ...
polysaccharide ...
IN ... **Dellacherie, Edith; Hubert, Patrick; Houzelle, Marie Christine; Pelletier, Sophie**
PA ... Fr.
SO ... Fr. Demande, ... pp.
CODEN: ...
DT ...
LA ...
FAN.CNT ...

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
...	...	...	...	...
...	A1	...	...	...
...	A1	...	...	...
...	A1	...	...	...

PRAI ...
AB The invention ... gel/liq-reversible **wound** ... **polysaccharide**, esp. **alginate**, having aliph. side chains.
IT **9005-32-7D**, Alginic acid, salts, reaction products ... aliph. alkyl, amines, and aliph. amines
RL: THU (Therapeutic use); BIOL (Biological study); ... (Uses)
gel/liq-reversible **wound** dressings containing **polysaccharide** derivs. having aliph. side chains
RN ...
CN Alginic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

AN [illegible] HCAPLUS
DN [illegible] 44[illegible]
TI [illegible] characterization of pharmaceutical [illegible] by confocal Raman spectral imaging
AU [illegible], Ilse; Delepierre, Philippe; **Maingault, Philippe**; [illegible], Elmire
CS Lab. Pharm. Anal., Fac. Pharm., Univ. de Paris, Paris, Fr.
SO Proc. SPIE-Int. Soc. Opt. Eng. (2000), 3918 (Biomedical Applications of Raman Spectroscopy), 47-54
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB Alginates are acid. polymers extd. from brown algae and are well known for their gelling and thickening properties and biocompatibility. Calcium alginate beads are used for spinning fibers which are particularly interesting as **wound** dressings since they exhibit antihemorrhagic and healing effects. Alginates are copolymers of .alpha.-L-guluronate (G) and .beta.-D-mannuronate (M). The M/G ratio and the monomer sequence are determinant for their physico-chem. properties but are difficult to control since they are variable from algae family, origin and season of their harvest. For rapid and non-destructive structural characterization of pharmaceutical fibers of alginates we used confocal Raman spectral imaging with a micron-scale spatial resoln. The characteristic Raman features were successfully correlated with the M/G ratio. For the fibers with a defd. average, the spectral images appeared rather homogeneous. On the other hand, the Raman relative intensities were found to be dependent on the fiber orientation of the fiber and laser polarization. We concluded that, with a micron-scale resoln., the fiber samples are well homogeneous and the polymer chains are highly ordered with domination of parallel stacking of the M-M blocks. The approach is actually being applied to study the alginate fibers at the tissular level.
IT **9005-32-7D**, Alginic acid, salts **9005-35-0**, Calcium alginate **56687-62-8D**, .beta.-D-Mannuronic acid, polymers **56688-68-7D**, .alpha.-L-Guluronic acid, polymers
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(structural characterization of pharmaceutical fibers of alginate salts by confocal Raman spectral imaging)
RN [illegible]-32-7 HCAPLUS
CN Alginic acid (9CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN [illegible]-35-0 HCAPLUS
CN Alginic acid, calcium salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN [illegible]-62-8 HCAPLUS
CN .beta.-D-Mannopyranosyluronic acid (9CI) (CA INDEX NAME)

[illegible]

RN [illegible]-68-7 HCAPLUS
CN .alpha.-L-Galactopyranosyluronic acid (9CI) (CA INDEX NAME)

[illegible]

L... ANSWER ... OF ... HCAPLUS ... (WEIGHT ... ACS

AN ... HCAPLUS

TI ... Hyaluronate-**alginate** ... the preparation ... and ... of ... behavior in ... solution

AU ... Leclerc, Sandra; Baron, Elisabeth; Lapicque, Francis; Delne, Nathalie; **Hubert, Patrick**; Millet, Sylvaine; Netter, Patrick; Lapicque, Francine

CS ... Faculte de Medecine, UMR 7561 CNRS, FR CNRS ..., Laboratoire de Chimie Physique, Physicopathologie et Pharmacologie Appliquees, UHP Nancy 1, Vandoeuvre les Nancy, 540 6, Fr.

SO ... Biochim. Biophys. Acta, 1998, 1425(1), 148-154
CODEN: BBACAQ; ISSN: ...

PB ... Elsevier Science B.V.

DT ... Journal

LA English

AB With the aim of providing a biomaterial for surgical applications, the **alginate**-hyaluronate association was investigated. ... physicochemical methods were used to assess the existence of polymer interactions in aq. solns. ... mixts. **Alginate** was obtained from algae and hyaluronate was purified from rooster comb. Viscometry measurements ... using the capillary technique or the Couette flow, together with ... investigations, evidenced the moderate significance of interactions between the two **polysaccharides** in all solns. In addn., the ... of ... and conc. ... mg/mL **alginate** was apparent, from ... measurements in the flow mode; the behavior of the ... associations appeared as a compromise between those of individual **polysaccharides**.

IT **9005-38-3**, Sodium **alginate** **9067-32-7**, Sodium hyaluronate
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hyaluronate-**alginate** combination for prepn. of biomaterials)

RN ... HCAPLUS

CN Alginic acid, sodium salt (9CI) (CA INDEX NAME

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN ... HCAPLUS

CN Hyaluronic acid, sodium salt (9CI) (CA INDEX NAME

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RE.CNT 33

RE

(1) Balmeier, R; Pharm Res 1989, V6, P413 HCAPLUS

(2) Cleland, R; Biopolymers 1970, V9, P799 HCAPLUS

(3) Christensen, A; Carbohydr Res 1996, V284, P85 HCAPLUS

(4) Garcia, A; J Control Release 1996, V40, P179 HCAPLUS

(5) Grant, G; FEBS Lett 1973, V32, P195 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L[illegible] ANSWER [illegible] OF [illegible] HCAPLUS [illegible] COPYRIGHT [illegible]
AN [illegible] HCAPLUS
DN [illegible]
TI **Wound** dressing with a calcium alginate matrix
IN [illegible]; **Maingault, Philippe**
PA [illegible] S.a r.l., Fr.
SO Fr. Demande, [illegible] pp.
[illegible] FRXXEL
DT Patent
LA French
FAN.CNT [illegible]

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
[illegible]	A1	[illegible]	[illegible]	[illegible]
[illegible]	B1	[illegible]		
[illegible]	A1	[illegible]	EP [illegible]	[illegible]
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, [illegible], SE, MC, PT, IE, SI, LT, LV, FI, RO				
AU [illegible]	A1	[illegible]	AU [illegible]	[illegible]
JP [illegible]	A2	[illegible]	JP [illegible]	[illegible]

PRAI FR [illegible]
AB A **wound** dressing comprises a calcium alginate matrix, for ex., with at least a multivalent metal alginate excluding calcium. The multivalent metal alginate is obtained from sodium [illegible] by extrusion in a wire shape placed in a coagulation bath contg. a [illegible] multivalent metal salt. The dressing can be used in the form of nonwoven cloth.
IT **9019-44-7 9019-49-2**, Zinc alginate **115966-00-2**
146836-73-9, Selenium alginate
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fiber; **wound** dressing with calcium alginate matrix)
RN [illegible]-44-7 HCAPLUS
CN Alginic acid, copper [illegible] salt (9CI, 8CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN [illegible]-49-2 HCAPLUS
CN Alginic acid, zinc salt (9CI, 8CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 115966-[illegible]-1 HCAPLUS
CN Alginic acid, manganese(2+) salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 146836-73-9 HCAPLUS
CN Alginic acid, selenium salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9005-35-0**, Calcium alginate
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
wound dressing with calcium alginate matrix
RN [illegible]-35-0 HCAPLUS
CN Alginic acid, calcium salt (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

[illegible]

[illegible] ANSWER [illegible] HCAPLUS [illegible]

AN [illegible] HCAPLUS

IN [illegible]

TI **alginate** beads coated with polycationic polymers: a comparison of chitosan and DEAE-dextran

AU [illegible]; **Dellacherie, E.**

CS [illegible]

SO [illegible]

CODEN: [illegible]

DT [illegible]

LA [illegible]

AB The retention capacity of **alginate** beads coated by the polycationic polymers, chitosan or diethylaminoethyl-dextran (DEAE-dextran) was studied. When beads were stirred [illegible] NaCl soln., the chitosan coating was stable for more than 5 mn or less than 1 mn, resp. The greater the concn. of the polycationic **polysaccharides** in the formation soln. of the beads, the lower the Hk release. Hk release depended on the pH conditions of bead formation. With chitosan, the lowest release was obsd. at pH 6.4 and of released Hk and at pH [illegible], resp., during bead formation. With DEAE-dextran the lowest release was obsd. at pH 4 [illegible].

IT **7440-70-2**, Calcium, biological studies

RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)

calcium-**alginate** beads coated with polycationic polymers and comparison of chitosan and DEAE-dextran

RN [illegible] HCAPLUS

CN Calcium (8CI, 9CI) (CA INDEX NAME)

IT **9005-32-7**, Alginic acid **9012-76-4**, Chitosan

9015-73-0, Diethylaminoethyl-dextran

RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)

calcium-**alginate** beads coated with polycationic polymers and comparison of chitosan and DEAE-dextran

RN [illegible] HCAPLUS

CN Alginic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9012-76-4 HCAPLUS

CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN [illegible] HCAPLUS

CN Dextran, 2-diethylaminoethyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 9004-54-0

CMF Unspecified

CCI IDS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN [illegible]

CMF [illegible]

[illegible]

... ...

L... ANSWER ... OF ... HCAPLUS COPYRIGHT ... ACS
AN ... HCAPLUS
DN ...
TI ... **alginate**:
... ...
AU ... **Hubert, Patrick**; **Dellacherie, Edith**
... ... Chim. Nancy I, Vandoeuvre les Nancy, ..., Fr.
... Polym. ... , ... , ...-...
... ...; ISSN: ...
DT ...
LA English
AB A ... **alginate**-polyoxyethylene model ... was prepd. by reductive amination of aldehyde ... **alginate**, in order to obtain a polymer with amphiphilic properties. ... of this deriv. was carried out by NMR spectroscopy, ... and low-angle laser light scattering. The data ... suggested a limited capacity of the polymer structure to expand, ... arising from intramol. self-association and formation of hydrophobic ...
IT **9005-38-3DP**, ... **alginate**, reacts ... products with ... alpha.-amino,.omega.-benzyloxy tetra oxyethylene **86770-77-6DP**, reacts ... products with sodium **alginate**
RL: PREP (Preparation)
... amphiphilic, synthesis and limited expansion ... of ...
RN ... HCAPLUS
CN Alginic acid, sodium salt (...CI, JCI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN ...-77-6 HCAPLUS
CN ...,5,8,11,14-Pentaoxahexadecan-16-amine, 1-phenyl- ... (CA INDEX NAME)

... 1-A

... ——

... 1-B

— ... — Ph

... ... 1

L... ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2000 ACS
AN ... HCAPLUS
DN ...
TI FT-Raman spectroscopy and Raman multispectral imaging of alginate **wound** dressings in vitro and in tissues
AU ..., ...; Carpentier, Philippe; **Maingault, Philippe**; ..., Pierre
CS Laboratoire de Chimie Analytique, Universite de Tours, ... Fr.
... Spectrosc. Biol. Mol.: New Dir., Eur. Conf., 4th ... , ...-...
Ed. ... Greve, Jan; Puppels, Gerwin J.; Otto, C... Publisher: Kluwer Academic Publishers, Dordrecht, Neth.
... ISBN: ...
DT ...
LA English
AB The ... of the calcium alginate ... were ... by Raman multispectral imaging with red laser excitation.
RE.CNT 11
RE

... BY STN ...

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                    FILE 'HOME' ENTERED AT 13:37:17 ON 26 SEP 2000

                    FILE 'HCAPLUS' ENTERED AT 13:37:24 ON 26 SEP 2000
L1                    7 S MAINGAULT P?/AU
L2                  134 S DELLACHERIE E?/AU
L3                  467 S HUBERT P?/AU
L4                    4 S HOUDELLE M?/AU
L5                  561 S PELLETIER S?/AU
L6                    0 S L1 AND L2 AND L3 AND L4 AND L5
L7                  971 S L1-5
L8                   18 S L7 AND ALGINAT?
L9                106926 S ALIPHATIC
L10                   1 S L8 AND L9
L11                 121 S L9(5A)SACCHARID?
L12                   1 S L11 AND L9
L13                3741 S ?POLY?SACCH?
L14                   6 S L9 AND L13
L15                   4 S L7 AND ?WOUND?
L16                   4 S L14 OR L15
                      SELECT RN L16 1-9

                    FILE 'REGISTRY' ENTERED AT 13:43:31 ON 26 SEP 2000
L17                  20 S E1-20

                    FILE 'HCAPLUS' ENTERED AT 13:43:45 ON 26 SEP 2000
L18                   8 S L16 AND L17
L19                   1 S L16 NOT L18
L20               17412 S ?ALGIN?
L21                1537 S ?ALGIN?(L)THU/RL
L22                 154 S L21 AND (WOUND OR DRESSING)
L23                   6 S L22 AND L11
L24                   6 S L23 NOT L16
L25              366738 S ?AMMONIUM? OR NH4
L26                 101 S L21 AND L25
L27                  33 S L13 AND L26
L28                  30 S HYDR?(W)GEL
L29                   3 S L28 AND L23
L30               15671 S ALGINIC OR ALGINATE
L31                   3 S L28 AND L30
L32                   4 S L25 AND L26 AND L9
L33                 176 S GEL AND L26 AND L30
L34                   4 S L33 AND L9
L35              692428 S CARBOXYL? OR ESTER?
L36                1683 S L35 AND (L10 OR L30)
L37                 227 S L36 AND L26
L38                  69 S L37 AND L13
L39                   3 S L38 AND L9

                    FILE 'STNGUIDE' ENTERED AT 14:00:07 ON 26 SEP 2000

                    FILE 'HCAPLUS' ENTERED AT 14:09:35 ON 26 SEP 2000
L40              453894 S GEL(?A)SOL OR ?REVERS?
L41                   3 S L39 AND L40
L42                  69 S L37 NOT L16
L43                  12 S L42 AND PY<1999
L44                  57 S L42 NOT L43

                    FILE 'MEDLINE, BIOSIS, USPATFULL' ENTERED AT 14:13:16 ON 26 SEP 2000
L45               41041 S ?ALGIN? OR ALGINAT? OR ALGINIC
L46              213615 S NH4 OR ?AMMONIUM?
L47              648546 S GEL
L48             1186881 S SOL OR SOLUTION
L49               12282 S L47(5A)L48
L50               87634 S RHEO?
L51              448445 S POLYSACCHARID?
L52             1745939 S LONG-CHAIN? OR ALIPHATIC?
L53               11741 S L45 AND (L51 OR ALKYL)
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in ventor search

8 cites w/ 20 cpds displayed

1 cite no cpds

57 cites

L74 14-45 S L63 AND L48
L75 1388 S L74 AND (L47 OR L5
L76 1268 S L49 AND L65
L77 [illegible] S L61 P (ALKYL OR L5L
L78 [illegible] S L48 P (ALKYL OR L5L
L79 8-31 S L67 OR L5F
L80 [illegible] S L59 P L46
L81 150 S L60.P (L4F OR L49
L82 [illegible] S L48 AND L61
L83 [illegible] DUP REM L82 (DUPLICATES REMOVED)
L84 45 S L69 AND (MEDICINE OR SURGE? OR WOUND? OR [illegible]
L85 [illegible] S L61 AND MACROMOLECULE
L86 1 S L61 AND MACROMOLECULE
L87 [illegible] S L61 AND (L49 OR L5L
L88 35 S L66 OR L67
L89 [illegible] S L5L AND L68
L90 64 S L5L AND L63
L91 29 S L5L AND L64
L92 45 S L69 OR L71

cites 1 & 2 only

selected citations